

Review and Coordination of Committee Recommendations

Uniform Methods and Planning Committee of American Oil Chemists' Society Reports on Methods Revisions

By JOHN J. VOLLERTSEN, *Chairman*

AS CHAIRMAN of the Uniform Methods and Planning Committee we wish to take this opportunity of expressing our appreciation to the various members of this committee for the cooperation which we have had from them. We feel that during the past year committees have been handled in a much more efficient manner than heretofore and are hoping that a similar improvement will be shown by the next committee.

Kreis Test Committee

THE Kreis Test Committee has done considerable cooperative work but has not been able to obtain consistent check results. Their recommendation is that the Kreis Test be not incorporated as a method of the society and this recommendation is approved by the Uniform Methods and Planning Committee.

Referee Board

THE Referee Board recommends the continuance of the check work on the refining of crude oils and the reading of colors, and state that this work should be enlarged. We approve this recommendation and suggest that if possible this check work be extended to other than refinery laboratories, in a manner similar to that used by the Smalley Foundation Committee.

Sampling Committee

LAST year the Serbell sampling tube was recommended as a tentative sampler and it was suggested that they be obtained to determine its efficiency in actual commercial use. This was done and the committee recommends the adoption of this sampling tube as official. This recommendation has our approval.

The Committee on Crude Mill Operations made no report or recommendations.

Committee on Petroleum Ether

DURING the recent crushing season a committee was appointed to investigate the use of solvents for fat extraction. The new specifications which they recommend are as follows:

"The solvent used should be of the pentane type, containing a minimum amount of iso-pentane, iso-hexane, and hexane. The following specifications would give a product meeting the above requirements:

Initial boiling temperature—not less than 35° C.
" " " —not over 40° C.
Dry flask end point —not over 60° C.
" " " —not less than 50° C.
At least 95% distilling under —55° C.
Not over 85% distilling under —40° C.
Specific gravity at 60° F.—.630 to .675
Color—water white
Evaporation residue —not over .002% by weight
Doctor test—sweet
Copper strip corrosion test —non-corrosive
Unsaturated compounds—trace only permitted

This product would have approximately the following composition:

Iso-pentane	0% to 5%	or about 2%
Normal pentane	70% " 85%	" " 80%
Iso-hexane	5% " 20%	" " 9%
Normal hexane	5% " 20%	" " 9%

The Uniform Methods and Planning Committee approve this recommendation for tentative adoption.

Soap Committee

THE Soap Committee made the following recommendations, all of which are approved by the Uniform Methods and Planning Committee.

1. That the Detergents Committee continue as at present organized until after its report at our next fall meeting.
2. That the Soap Analysis Committee continue its cooperative work on developing a method for determining unsaponifiable matter in filled soaps containing rosin, lanolin, etc., and be requested to review and revise the Standard Methods of Sampling and Analysis of Soap and Soap Products as adopted by the American Chemical Society and the American Oil Chemists Society.
3. That the Glycerine Analysis Committee continue its cooperative work on the cause

of the discrepancy between the analysis of glycerine by the specific gravity and bichromate method on one hand and the acetin method on the other as proven by the committee work this year.

The Committee on the Analysis of Commercial Fats and Oils advise that they have no report for the present meeting.

Refining Committee

THE following recommendations from the Refining Committee have our approval.

"First, add to the note at the end of Rule 273, section 5 (d) on Refining Procedure, the following paragraph:

'The filter paper used must be a white paper of good quality so that the filtered oil will have a color substantially equivalent to that filtered thru Whatman's No. 40 paper.'

"Second, in the same section (d) on Refining Procedure, insert the following, beginning in the seventh line from the bottom, replacing the clause beginning with the words 'cool and decant.' The new clause will read as follows:

'Cool in the cold water bath for 15 minutes or until thoroly chilled. Then decant into a weighed beaker any additional oil thus recovered, and drain for 15 minutes.'

"Third, in the same section (d) on Refining Procedure, in the ninth line, change the parentheses to read as follows:

'45 minutes for oils designated as expeller or slow breaking type oil.'

(NOTE: The reason the Rule Numbers are used herein is to save space in recopying entire sections of the methods.)

Color Committee

THE Color Committee made the following recommendations:

"1. Feeling the urgent need of a standard tintometer and considering the many requests for such, the Committee recommends that the Society adopt as a tentative Standard the enclosed Wesson Type Instrument illustrated by the attached drawings.

NOTE: The drawings* describe an instrument of practically the same dimensions as the Wesson type manufactured by the Emil Greiner Company, which is now in use in most laboratories. They recommend that the old type eye piece be adopted and vote against the split field type."

The Uniform Methods and Planning Committee approve this recommendation but with the understanding that the blue print will be modified to permit the use of the split field eye piece.

"2. That the Standard Set of Lovibond

Color Glasses be adopted; the glasses to compose the set are shown in the proposed Rule which is attached."

We approve this recommendation.

"3. We recommend that the Society have a supply of the Standard Color tubes manufactured and furnish them to the members at cost."

We approve this recommendation.

The Committee on the Analysis of Cottonseed made a report, but it contained no recommendation.

It is the recommendation of the Uniform Methods and Planning Committee that a committee be appointed to study the determination of free fatty acids in seed.

The Moisture Committee spent its time in working on the determination of moisture in seed. They recommend that the Freas Forced Draft Oven be permitted as a moisture oven.

We approve this for tentative adoption and recommend that further work be done on the use of higher temperatures and shorter time in determining moisture in seed.

The personnel of the Uniform Methods and Planning Committee for 1930-31 was as follows: J. J. Vollertsen, *Chairman*, A. Campbell, N. C. Hamner, C. B. Cluff, E. T. Marceau.



The Sixth Annual Convention of the Mayonnaise Manufacturers Association will be held in Chicago, October 26, 27, 28, 1931, at the Hotel Stevens. The tentative program includes several open sessions, closed sessions for active members, conferences of associate members, meetings of the Board of Directors and the annual banquet.



A report from Consul Garrety at Tahiti, Society Islands, states that exports of copra to the United States during the 2nd quarter of 1931, totalled 59,012,733 pounds valued at \$1,263,450 as compared with exports of the corresponding quarter of 1930 of 14,024,984 pounds and \$210,291.



A cable from Commercial Attache Arnold at Shanghai, China, dated August 13, states that the flooded condition of the Central Yangtze valley is expected to seriously affect the supply of several varieties of oil seeds that enter into China's export trade. This is particularly true of the sesame seed crop which was badly damaged and forward purchases are now impossible although existing stocks are believed to be sufficient to supply orders already booked.

* See O. & F. I., Vol. 8, pp. 303, August, 1931.

Spanish Olive Oil

During the first three months of 1930 and 1931, olive oil exports from Spain amounted to 19,722,178 and 20,035,335 kilograms respectively; for March, 1930, and 1931 exports amounted to 8,313,441 and 7,992,738 kilograms. The three principal countries of destination were Argentina, Italy and the United States, the Argentine leading with a total of 3,723,458 for the first three months of 1930 and 5,662,592 kilograms for the first three months of 1931; for March, 1930, exports amounted to 1,461,636 and for March 1931, 2,233,046 kilograms. Exports to Italy during the first three months of 1930 and 1931 were 2,989,818 kilograms and 3,315,878 respectively; for March, 1930, exports were 2,069,872 and for March, 1931, 1,327,299. Exports to the U. S. for the first three months of 1930 and 1931 were 2,651,306 and 2,878,081, respectively; for March, 1930, and March, 1931, exports were 934,941 and 1,132,437, respectively. This information was forwarded to the Department of Commerce by Assistant Commercial Attaché Julian C. Greenup at Madrid, Spain.

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The Transit Milling Company has been organized by Geo. H. Gymer of Galveston, Tex., with offices in that city and in Sherman, Tex., to lease and operate the cottonseed cake grinding plants at Sherman and at Cairo, Ill., formerly operated by R. L. Heflin, Inc. The Graco Milling Co., at Sherman, also a Heflin interest is included in the deal. Mr. Gymer has been the general manager of the Heflin business for some years. The new company will do a domestic business in cake of various special sizes and in cottonseed meal, as well as an export business from Gulf ports.

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The annual golf tournament of the Oil Trades Association of New York was held at Pelham Country Club, Pelham Manor, N. Y., September 1. According to an announcement by Jos. C. Smith, secretary of the association, the date for the fall banquet, which will be held at the new Waldorf-Astoria Hotel, is October 5.

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Exports of caustic soda from the United States amounted to 12,142,174 lbs. during May, 1931, the value being \$325,825. The largest buyer was Japan with purchases aggregating almost four million pounds.

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The Quanah (Tex.) Cotton Oil Company is building a new postless all-steel seed house, 60x190 feet and 50 feet high, to replace the one burned recently.

American Chemical Society

PAPERS of particular application to the chemistry and technology of oils and fats which were presented at the meeting of the American Chemical Society at Buffalo during the week of August 31 included the following, given here in abstract:

Thiocyanogen Number and Its Application to Studies of Lard. Lawrence Zeleny and C. H. Bailey. It was found necessary to slightly modify Kaufmann's technique for determining the thiocyanogen number in order to apply it satisfactorily to the study of lards. The difference between the iodine number and thiocyanogen number of a lard is a measure of the linolic acid content of the lard, assuming that there are present no acids of a higher degree of unsaturation than linolic acid (which is probably not strictly true). From these two constants, then, may be calculated the percentages of oleic acid, linolic acid, total unsaturated acids, and total saturated acids. Applying this method to the study of partially hydrogenated and partially oxidized lards, it was found that the linolic acid in lard, or at least one of the double bonds of linolic acid, is much more reactive to both reduction and oxidation than is the double bond of oleic acid. Since the linolic acid (and without doubt, traces of more highly unsaturated acids) may be almost completely reduced by a very small amount of hydrogenation, and since oxidation attacks the linolic acid first, it should be possible to appreciably increase the stability of a lard by such a small degree of hydrogenation that the physical properties would not be appreciably altered.

A Method for the Estimation of the Gossypol Remaining In Cotton Seed Meal. J. O. Halverson and Frank H. Smith. The Withers-Carruth method for the estimation of gossypol in cotton seed as modified by Schwartze is not adequate for meal. The modified method consists of the following steps: The removal of a part of the oil in the meal by a preliminary extraction with petroleum ether. After thorough extraction of gossypol from the air-dry meal with U. S. P. ethyl ether and removal of the ether under partial vacuum, the residue is diluted with petroleum ether and constantly agitated over night, the ether insoluble material is then filtered off. Ethylene glycol aids precipitation of the dianiline gossypol on the steam bath in the presence of a high B. Pt. petroleum ether. After shaking over night, precipitates of a high degree of purity are completely obtained. Certain cotton seed meals by this method gave somewhat more gossypol. Lim-

ited data show a variation of 0.0065 to .0519 per cent.

Synthetic Glycerides of Fatty Acids. D. T. Jackson, H. E. Robinson and C. G. King. The mixed glycerides (distearins) of stearic acid with the C₄, C₆, C₈, C₁₀, C₁₂, and C₁₆ acids have been prepared and further evidence obtained regarding their structures by the use of different intermediates. Mono- and di-trityl ethers of glycerol have been used for the preparation of mono- and diglycerides of fatty acids for the first time, and these ethers have also given evidence of a shift in molecular structure similar to that furnished by previous work.

Some Characteristics of Colors in Vegetable Oils, and Methods of Removing Same. B. H. Thurman. Vegetable oils can be classified as to their origin by their color. For instance, nut oils approach being colorless; oils from seeds and from the pericarps surrounding the nuts of plants, are always distinctly colored. This coloration may vary in the individual oil according to its method of preparation from the seed or the nut. Some discussion is given to the identity of the color in vegetable oils, its effect in commercial use and commercial methods of removing it. In the removal of color from vegetable oils, certain effects of chemical reactions are described as well as the effect of different decolorizing agents which remove color by reducing or oxidizing it, and the removal of color by adsorption.

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The constitutionality of the Federal tax on margarine has been questioned by the Ed S. Vail Butterine Company, which has filed a petition for a review by the United States Supreme Court of a decision of the Circuit Court of Appeals for the Seventh Circuit, which held that the margarine tax had been properly levied against the company. The petition to the Supreme Court asserted that the classification made by the tax law is based on whether the color of a food product is natural or artificial. This classification is termed by the petitioner as arbitrary, unreasonable and constitutes class legislation. It is further asserted that the tax is a penalty or punishment and that the law, under the guise of a revenue law, is a regulation of an industry entirely under state control.

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The final Egyptian Government estimate of the 1930-31 cotton crop is placed at 793,524,600 pounds as compared with 824,615,946 pounds the final Government estimate for the 1929-30 season.