Report of the Uniform Methods and Planning Committee

DURING the past year there has been such a press of work on everybody in industry that it has been difficult for some of the committees to handle the work assigned to them. However, we have heard from each committee and if reports of actual work have not been sent in they have made suggestions for future work or have stated that they will undertake certain tests during the coming year.

JOURNAL COMMITTEE

A report of the Journal Committee has been presented to the Society and been acted on by the Governing Committee, so that it requires no recommendation or action by the Uniform Methods and Planning Committee.

Four of the committees have written us as follows:

MEAL COLOR COMMITTEE

"Some work has been done, and we have at present an order in for an instrument which we are going to try to adopt for this work; however, we have been delayed so long in receiving this instrument that there will be insufficient time to do enough work for a committee report."

SULPHONATED OIL COMMITTEE

"The committee is working on other methods and will report as soon as possible."

SEED ANALYSIS COMMITTEE

"With reference to report of the Seed Analysis Committee covering work performed during the past year, I would like to advise that the Committee worked on testing an experimental laboratory linter machine. In so far as the majority of the Committee indicated negative results, there will be no report made on the season's work."

SOAP IN REFINED OIL COMMITTEE

"The Soap in Refined Oil Committee have been more or less inactive this year for lack of some good leads to work on. There will, therefore, not be a report of the committee for this year. We are at the present time checking the method reported by H. A. Boekenoogen—The Determination of Soap in Refined Oil— in *Oil and Soap* 18, 8 (1941). This method appears to have some possibilities and we intend to submit it to the Committee as soon as we have convinced ourselves that it has some merit."

REFINING COMMITTEE

The Refining Committee have done an excellent piece of work during the past year and the Uniform Methods and Planning Committee wish to commend them, and also the Regional Soybean Laboratory of the Bureau of Chemistry, for the large amount of time expended on the Society's problems.

The recommendations which they make and which have been approved by the Uniform Methods and Planning Committee are as follows:

"1. The refining method recommended by the Regional Soybean Laboratory as a result of the extensive investigational program carried out there shows sufficient promise to be studied cooperatively by the Refining Committee.

"2. The use of a centrifuge for quick and more efficient separation of foots may well be given further consideration.

"3. It is hoped that the Regional Laboratory will again be in a position to assist in the Investigational Program in cooperation with the Refining Committee. Such cooperation is essential for a reasonably quick and satisfactory solution to the extracted soybean oil refining problem."

Inasmuch as no change in our methods is recommended this report requires no action by the Society.

SOYBEAN ANALYSIS COMMITTEE

This committee has likewise done an excellent piece of work, but make no definite recommendations for changes in methods. The Uniform Methods and Planning Committee recommend that further study on the moisture determination of soybeans be carried on by this committee and after its appointment for the coming season comments received by members of the Uniform Methods and Planning Committee with reference to future work will be sent to them for their consideration.

SAMPLING COMMITTEE

The report of the Sampling Committee was not in a form which could be included in our methods. It is, therefore, recommended by the Uniform Methods and Planning Committee that the matter be referred back to the Sampling Committee with a request that this report be put in such a form that it is possible to include it in our methods and that the report be presented for adoption at the Fall Meeting of our Society.

It was found, however, that a report of a previous Sampling Committee had not been acted upon. This report is as follows:

"BARRELS, TIERCES, CASKS, DRUMS, AND OTHER PACKAGES

"All packages shall be sampled, unless by special agreement the parties arrange to sample a lesser number; but in any case not less than 10 per cent of the total number shall be sampled. The total sample taken shall be at least 20 pounds (9 kg.) in weight for each 100 barrels, or equivalent.

APPARATUS

"Tryer: A half round tube of uniform diameter (½" to 1" in diameter and 2 to 7 feet long, depending upon the size of the packages sampled) equipped with a D or T shaped handle on one end, and the other end tapered to a point (the taper being not over 1" long).

"Thief: A glass tube, ⅜" to ½" inside diameter and of uniform diameter, and constricted to ¼" inside diameter at the lower end, by a short taper not over 1" long. This instrument must be long enough to reach the bottom of the packages to be sampled.

Method:

"1. Barrels, tierces, and casks.—(a) When contents are solid. Open the bungholes or drill a special hole through head or side with a 1" or larger auger, being careful to remove all borings and chips. Close this opening with a bung after sampling.

"Insert tryer to end of package, turn it a complete circle and remove with core sample.

"Soften the various core samples, mix them thoroughly and fill four 2 lb. containers, one for the buyer, one for the seller and two for the referee chemists. Show on the label the location, the lot number, etc., the number of the individual packages sampled, and the date. Seal the can with wax.

"The balance of the page including 1 (b), 1(c), and 1 (d), 2, 3, and 4, to follow as written."

The Uniform Methods and Planning Committee approve the adoption of this report as a tentative method. This was acted upon by the Society and adopted.

OIL CHARACTERISTICS COMMITTEE

There has been considerable discussion among the members of the Oil Characteristics Committee, the Uniform Methods and Planning Committee and other members of the Society as to the use of the term "specifications" or "standards" as applied to certain oils whose constants are listed in the methods of the American Oil Chemists' Society. The term "standards" or "specifications" may lead outsiders to think that oils which did not meet the constants given were not pure and may lead to litigation which is undesirable. The Uniform Methods and Planning Committee, therefore, approve the suggestion of Dr. Lauro, Chairman of the Oil Characteristics Committee, that the constants for these oils be listed as "standards" with these preliminary qualifications:

"Values given for all standards recommended by the A.O.C.S. are for normal pure oils; they do not include extremes of pure oils, which sometime occur, but which are exceptional due to variance of climate, locality, sources, method of manufacture and preparation. In the latter case, the burden of proof of purity shifts to the dealer, inasmuch as these oils represent distinct departures from the norm."

We also approve the constants submitted by the Oil Characteristics Committee for the following oils:

Cod liver
Castor
Sesame
Rapeseed
Corn
Peanut
Tung
Perilla
Soya
Linseed

The above action was adopted by the Society.

POT COOK YIELD COMMITTEE

This Committee made the following recommendations, all of which have been approved by the Uniform Methods and Planning Committee:

"(1) That check samples be sent out in September of 1941, at the beginning of the season, and every three or four months thereafter.

"(2) That the tentative status of the method be maintained for another year.

"(3) That more work be done on the off-grade hull fibre to determine if it can be washed satisfactorily.

"(4) That the present committee be reappointed so that present work can be continued.

"(5) That the name of the method be changed from "The Pot Cook Cellulose Yield Method" to "The American Oil Chemists' Society Cellulose Yield Method."

Inasmuch as no change in the methods is recommended no action by the Society is required.

COLOR COMMITTEE

The color committee made one recommendation, as follows:

"Change the method as now given on page 16 d (amended 1938) to read as follows:

"CRUDE COCONUT OIL

"Approved Filter Papers — Eaton-Dikeman #1 — Whatman #12 and Whatman #40 .25 cm. size is recommended, but smaller papers can be used, if the quantity of oil available is small.

"Procedure—Melt the oil at 32.5°C. plus or minus 2.5°C. (do not heat above 35°C.) and filter once through two approved filter papers, folded together. Discard the first 10 cc. of the filtrate, before collecting the sample for color reading.

"(The remaining portion of the method as printed, beginning with the words 'Read the color' and ending with the sentence 'Report both readings,' shall remain as printed in the method.)"

The above recommendation was approved as a tentative method by the Uniform Methods and Planning Committee and upon motion was adopted by the Society.

PEANUT COMMITTEE

The Peanut Committee submitted methods of sampling, which will appear elsewhere in their report. This method was approved by the Uniform Method and Planning Committee as a tentative method and was adopted by a vote of the Society.

OLIVE OIL COMMITTEE

The Olive Oil Committee made an addition to the Fitelson Test for teaseed oil in olive oil. This was to take care of dark colored oils on which the present method did not give satisfactory results.

This change was approved by the Uniform Methods and Planning Committee and upon motion adopted by vote of the Society.

TENTATIVE METHODS

There are a number of methods which were adopted as tentative several years ago and should be given consideration as official methods at this time. The Uniform Methods and Planning Committee, therefore, recommend that the following tentative methods be made official:

"Page 3 —Specifications for Petroleum Ether (May, 1939)
Page 10 b—Soya Beans—Method of Analysis (May, 1937)
Page 12 —Free Fatty Acids in Dark Oils Only (May, 1938)
Page 16 f—Refined Oils—Color (May, 1939)"

This recommendation was put to a vote and adopted by the Society.

More than a year ago the Society made an appro-

priation to revise all of our methods in order that they may have the same general format and that duplications be replaced by cross references. This is quite a large undertaking, but it has been given considerable thought by the Uniform Methods and Planning Committee and other members of the Society. We are ready now to prepare a format and a general scheme for the revision of methods, which will be submitted to the members of the Uniform Methods and Planning Committee, the officers, and committee chairmen for suggestions or criticisms. When the replies have been received, the Uniform Methods and Planning Committee will decide upon a course of action and through Mr. J. T. R. Andrews hope to get the work under way promptly.

J. T. R. Andrews
E. B. Freyer
W. D. Hutchins
T. C. Law
C. P. Long
H. P. Trevithick
J. J. Vollertsen, Chairman.

Fatty Oils in National Defense*

By CHARLES E. LUND

FATS AND OILS SPECIALIST, DEPARTMENT OF COMMERCE

AN ADEQUATE supply of fats and oils is a leading consideration in any nation's defense preparations. Europe learned this in the 1914-1918 conflict, when a shortage of these vital materials in the blockaded zone was one of the factors in the ultimate outcome of that war. Most European nations are still dependent upon overseas imports for the bulk of their fats and oils needs, which are subject to blockade and wartime shipping dangers. The products finally reaching them carry increased transportation charges and the higher cost of wartime production in the supplying countries.

Therefore, Europe searched for both alternate and synthetic materials that could be procured with the least expenditure of foreign exchange and, so far as possible, from either domestic sources or colonial possessions. Germany concentrated on this program, particularly during the past ten years. Their development of synthetics and the reclamation of fats from former waste materials are too well known to your members to repeat in this discussion. They re-established their Antarctic whaling fleet in 1936 after a lapse of 70 years, and this oil became the leading ingredient in their margarine production—the largest in the world. In addition, they competed yearly with England for Norway's whale oil output and were the principal buyer of Manchuria's soybeans. These transactions were on a barter basis and conserved Reichsmarks formerly spent for 300 million pounds yearly of American lard. Substantial stocks of fats and oils were stored in Germany for government account for many months before the present war. However their dependence upon imports for fats for food purposes is still a weak link in the German economic system.

The theory of self-sufficiency, while more pronounced in Germany, was manifested in other countries, by tariff barriers of various forms, such as exchange controls, higher duties, quantitative quotas, internal consumption taxes on imported products, and requirements for blending with domestic raw materials. Countries having colonial possessions facilitated production and imports therefrom. Industrial nations favored trade with agricultural countries who bought their finished goods. The United States, while a surplus agricultural producer, was no exception in this race for bigger and better tariffs on imported products.

The resulting constriction in trade had serious effects on our own agriculture, particularly as some of it was based on Europe's wartime demands. Among other farm products, we lost normal foreign outlets for cottonseed oil and lard. In 1921 we exported 20 percent of our cotton seed oil production; in 1929 it was 2 percent; and in 1940, with about the same production as in 1921, exports were only 1 percent of the output. In 1921 we exported 65 percent of the federally-inspected lard production; in 1929 it was 50 percent, and in 1940, with a larger production than in 1921, exports were only 13 percent of the output. Lard exports reached very low levels during the drought period of short hog supplies in the years 1934 to 1937, and the present war interrupted a resumption of this trade that was under way in 1939 when we were again on a normal surplus basis.

The effect of the loss of foreign markets for half a billion pounds of lard yearly has not been serious until the past two years when we resumed producing hogs on an export basis, with few export markets still open. Our hogs are largely of the lard type, fattened on corn, and usually providing the most profitable method of marketing that grain. It was necessary to sell most of this hog-fat on the domestic market last year, and our total consumption of lard rose to a record of nearly 2 billion pounds, in addition to which large amunts were diverted to the soap kettle. The price in 1940 was at the lowest level in 6 or 7 years. Lard stocks have been unusually heavy in recent months.

The British market was our leading foreign outlet for lard before the present war, taking yearly a volume equal to that shipped all countries in 1940. However, during the years 1934-1938, when there were inadequate hog and lard supplies in the United States, England expanded its shortening production, as was also the case in our own country. Most of the ingredients in the British shortening are in the form of vegetable oils from their colonial possessions, and whale oil from their own and the Norwegian Antarctic fleet. England stored large amounts of these fats and oils for national defense purposes at the outset of the present war. No lard has been shipped there since August 1940, but some recent indications of a possible resumption of this trade have been among the several stimulating

* An address before the annual meeting of The American Oil Chemists' Society at New Orleans, La., May 15, 1941.