# ABSTRACTS

## Oils and Fats

***Edited by***
**W. F. BOLLENS and R. E. KISTLER**

**Test for coconut oil and butter fat.** R. STROHECKER. *Z. Untersuch. Lebensm.* 64, 392-3 (1932).—Mix 5 g. of clear filtered fat with 20 cc. of 0.5 *N* KOH in alc.; after 15 min. evap. the alc. on the steam bath. Esters are formed which can be detected by their odor. Expts. have shown that as much as 5% coconut oil present in lard and 5% butter fat present in margarin are still detectable because of the formation of esters of lauric and butyric acids, resp. S. LAUFER.

**The theoretical basis for the investigation of the effect of heat on protein in the fat industry.** A. GOLDOVSKII. *Masloboino-Zhirovoe Delo* 1932, No. 8, 30-6.—A theoretical discussion of the effect of heat on the protein constituents of the oil-bearing seeds during the drying and roasting processes. The exptl. work is now in progress. E. B.

**Air-bleaching of palm oil.** UGEN I. BETTERS. *Allgem-Oel u. Fett-Ztg.* 29, 486-91 (1932).—A sample of Lagos palm oil having an acid no. of 26 was air-bleached at a temp. of 110-115°. A simple app. in which the oil was aerated by suction was used. Periodic tests were made for color, active $O_2$ no. and Kreis test. The color reached a min. after 3 hrs. after which an increased color was observed. The active $O_2$ no. increased from 7 to 167 at 227 min. Further aeration decreased the active $O_2$ no.; at 407 min. it was 117.5. The Kreis test became pos. after 90 min. and reached a max. at about 227 min.; continued aeration decreased the intensity of the Kreis test. The active $O_2$ no. of a carefully air-bleached palm oil may be reduced to practically 0 by refining the oil with 20° Bé. NaOH at 90°. The refined oil is slightly darker than the unrefined oil and also has a neg. Kreis test. Lower refining temps, result in a better color but the active $O_2$ no. and the Kreis test are not so effectively reduced. Air-bleached palm oil is somewhat softer than the original oil and has a lower m. p. The titer of the mixed fatty acids of the bleached oil is slightly higher than that of the original oil. W. F. BOLLENS.

**Detection and determination of peanut oil in sesame oil.** G. BENZ. *Z. Untersuch. Lebensm.* 75, 486-91 (1932).—Various methods were compared and the results tabulated. Of the qual. methods that by Alder-Lüers (König, *Chemie Nahr. Genussm.* 3, II, 469; cf. *C. A.* 25, 3290) proved to be the most suitable if the sepn. temp. of 18° is observed. The quant. procedure by Bohrisch (König, *Ibid* 472) was not found reliable in all cases, while that by Rénard-Lewkowitsch-Tortelli-Ruggeri (König, *Ibid* 472) gave satisfactory results at a temp. not below 16°. S. LAUFER.

**The identification of filling oil and of cooking oil in canned fish.** GUSTAVE HINARD and MAURICE BOURY. *Ann. fals.* 26, 134-43 (1933).—In France the only oils used to date in the canning of fish are peanut and olive oils; and in practice the problem resolves itself to the identification of peanut oil, either alone or in admixt. with olive oil, but is complicated by the presence of the fish oil (contg. a certain amt. of cooking oil) which diffuses into the filling oil. The Bellier no. of olive oil varies from 12° to 14° (up to 16° for certain Algerian, Tunisian, Spanish and Portuguese oils); for sardine oils it varies within a narrow range about 19°, tunny oil around 21° and peanut oil around 40°. The oil of canned fish, after standing sufficiently long for complete interdiffusion of the fish and filling oils, may contain up to about 25% of oil derived from the cooked fish, which in turn may contain up to about 20% of the cooking oil. If the oil taken from the tins has a Bellier no. of 16° or less, pure olive oil used for both cooking and filling; a Bellier of 16-18° generally indicates cooking with peanut and filling with pure olive oil; a Bellier of 18-20° points suspiciously to filling with an olive oil adulterated with peanut oil; a Bellier above 20° clearly indicates adulteration of the olive oil. In suspicious cases, adulteration can sometimes be proved if a sample of the olive oil used is available as a control. The technic used for making the Bellier test is described. A. PAPINEAU-COUTURE.

**High-pressure hydrogenation of fatty oils. III. Production of active catalysts by reduction of mixed hydroxides of nickel and copper in liquid medium.** YOSHIO TANAKA and RYONOSUKE KOBAYASHI. *J. Soc. Chem. Ind., Japan* 36, Suppl. binding 36-7 (1933); cf. *C. A.* 27, 2592-3.—An autoclave of 212 cc. capacity contg. 100 g. of Ni-Cu hydroxides in 100 cc. liquid paraffin was supplied with H at 50 atm. pressure at 20° and the app. shaken and the temp. raised 4° per min. The amt. of H consumed was calcd. from the decrease in pressure. The results on 12 samples show that each of the hydroxides has a definite reduction temp. of narrow range, and the reduction temps. of the mixed hydroxides are lower than that of the Ni or Cu hydroxide. The lowest reduction temp. 132-34° was obtained with a 1 to 3 Ni to Cu ratio in the mixed hydroxides. The catalysts produced in the liquid medium have a durable activity, and those with the 1 to 3 Ni to Cu ratio are very active at 130-35°. E. SCHERUBEL.

**The fluorescence of olive oils.** GULBRAND LUNDE and FRITZ STIEBEL. *Angew. Chem.* 46, 243-7 (1933).—A no. of unrefined and refined oils were analyzed spectroscopically, and photometrically by means of red, green and blue filters. The results are plotted as thickness of oil layer *vs.* intensity of fluorescence. Conclusion: It is possible to detect an addn. of as low as 10% of S oil in com. products by measuring the fluorescence. Twelve references. KARL KAMMERMEYER.

**Halphen reaction in old cottonseed oils.** TH. STATHOPOULOS. *Praktika* (*Akad. Athenon*) 5, 173-7 (1930).—The Halphen reaction, while very characteristic for cotton seed oils, is more characteristic for old oils. Comparative results are tabulated for oil of recent date and for one 14 yrs. old, as to physicochemical consts. Among these the Halphen reaction for both is discussed in detail. Summary in French. L. Y. DYRENFORTH.

**Oil contents of nine varieties of soybean and the characteristics of the extracted oils.** G. S. JAMIESON, W. F. BAUGHMAN and R. S. McKINNEY. *J. Agr. Research* 46, 57-8 (1933).—Tabulated results are given showing the moisture content, the percentage of oil, and the chem. and phys. characteristics of the oil extd. from 9 of the 10 varieties of soy beans used in the protein investigation described by Csonka and Jones (*C. A.* 27, 2167). The most striking differences in the oils studied are in the I nos. and the thiocyanogen values. These differences are due to the variations in the proportions of oleic, linoleic and linolenic acids. W. H. ROSS.

**The properties of halibut-liver oil.** R. T. M. HAINES and J. C. DRUMMOND. *Brit. Med. J.* 1933, I, 559-61.—Analyses of 8 lots of halibut-liver oil gave the following general results: sp. gr. 0.924, $n^{40}$ 1.4721-1.4780, I no. 120-136.5, sapon. no. 172-179.8, unsaponifiable 7.44-12.70 and percentage of cholesterol in unsaponifiable 7.44-12.70 and percentage of cholesterol in unsaponifiable 43.4-72.1. Other interesting data and information are given. J. B. BROWN.

**Turtle oil.** MAISON G. De NAVARRE and STANLEY RUSZKOWSKI. *Am. Perfumer* 28, 16-8 (1933).—This oil is obtained from a special variety of sea turtle and is used among other things in the *prepn. of pomades, cold creams, cosmetics,* etc. The following properties have been reported for the genuine oil: color, deep yellow to golden; solidifies at 20° to 22°; sapon. no. 197-210; $d_{25}$ 0.914-0.919; $n_{20}$ 1.4658-1.4715; I no. 89-97; free acid 0.1 *N* KOH *v/x* — 0.05 to 0.1% per g. of oil. The oil is sol. in $CHCl_3$, $C_6H_6$, petr. ether, benzine, $Et_2O$, $CCl_4$, $CS_2$ and $Me_2CO$ and insol. in glacial AcOH. The 11 samples of oil reported in this paper show such a wide range of consts. that it is difficult, if not impossible, to decide which is really a genuine oil. W. O. E.

**Is washing of neutralized oils necessary?** H. H. LEMMEL. *Allgem. Oel- u. Fett-Ztg.* 28, 394-5 (1931).—In general (except when the oil is required for hardening, etc.), washing after neutralization may be omitted if the oil is allowed to settle for about 6 hrs. and strained through a coarse cloth before bleaching and deodorizing. B. C. A.

## PATENTS

**Fatty acids.** I. G. FARBENIND. A.-G. Brit. 370,964, Nov. 5, 1930. Improved fatty acids are produced from low quality animal and vegetable oils contg. unsatd. fatty acids by esterifying the unsatd. acids with an aliphatic alc., then polymerizing by heating to say 200-300° but not to the b. p., if desired while passing through a current of inert gas, with or without reduced pressure, and finally splitting the polymerized substances and recovering the free fatty acids. Examples of the treatment of acid train oil, train-oil fatty acids and soapstock fatty acids are given. Cf. *C. A.* 27, 2162.

**Expression of oil from animal materials.** AKTIEBOLAGET SEPARATOR. Swed. 72,964 (invented by T. V. Hannu) and 72,965 (invented by K. J. Svensson), Oct. 27, 1931. The raw material is pressed continuously and the coarser solid products are sepd. preferably by means of a rotary strainer with automatic purifying devices. Then the oil is sepd. from the water in continuous centrifugal separators with unperforated walls on which the solid impurities settle and are removed periodically. Patent 72,965 describes a device for removing the solid impurities from the centrifuge without stopping it.

COURTESY CHEMICAL ABSTRACTS