Abstracts from Other Journals

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Fat Splitting Catalysers

Comparisons were made concerning the reactivity of the new German fat splitting catalyst "Idrapidspalter," which consists of a sulphonated anthracene derivative—octohydro anthracene sulphonic acid—with American and Russian "Contact" catalysers, which are formed in the purification of mineral oil distillates by treatment with concentrated or fuming sulphuric acid. The latter are mainly sulphonated poly methylene hydrocarbons. The American products have a higher molecular weight than the Russian. The American products contain about 33 per cent of mineral unsaponifiable matter as against 17 per cent for the Russian and 7 per cent for "Idrapidspalter." The American and Russian products contain about 45 per cent sulphonic acids, whereas the German approximately double this value. The results of all hydrolyses with these three catalysts showed that the cleavage with "Idrapidspalter" under conditions observed in practice took place more slowly than with the Russian "Contact R" or the American "Contact D and DR." The latter two materials caused a marked coloration of the fatty acids and much emulsion formation.—Petroff, Dimakoff and Taksa (Translated from the Russian, Seifensieder, March 24 and 31, pp. 221-222 and 241-242, 1927).

The Value of Laboratory Tests on Lubricating Oils

Research into the practical meaning of the common laboratory tests for lubricating oils demonstrates that (1) there is no substantial benefit to be derived from compounding the oil to improve its "oiliness"; (2) although the formation of decomposition products in service is undoubtedly an important factor in lubricating oil quality, the laboratory tests at present do not evaluate that factor correctly; (3 no justification is apparent for the judging of oil by viscosity changes above 70°C.—Marshall and Barton (Jour. Soc. Chem. Industry, April 8, 1927. pp. 130T to 138T).

Karité Butter

Karité nuts or almonds found in French colonies in central Africa have been studied practically to determine methods of production of karité oil or butter which the nuts contain in amounts up to 50 per cent. Simple washing of the pulp with water and drying the resulting product in the sun are recommended as giving the best results. Fermentation is not desired in this material as the nitrogenous content is increased. Shipment of the nuts thus obtained presents no difficulty and makes it possible to obtain in European refineries a quality of butter superior in quality to that given by roasting or fermenting previously. Manufacture of the butter on the spot is being carried out in rudimentary apparatus consisting of grinding mills and hydraulic presses.—M. P. Ammann (Bull. de Matières Grasses, 1927, no. 1. pp. 20-36).

The Necessity of Drying Oil Seeds

By drying Flax seeds at 130-150 degrees with a corresponding reduction in water content to 1½-2½ per cent, the amount of oil cake is reduced about 1 per cent. The seed may also be ground more finely in the mill. If the drying is carried out quickly enough a drying of the oil in the seeds need not be feared.—A. Lobaschow. (Masloboino Shirowoje Djelo, 1926, No. 1. 42-46, and Chem. Zentralblatt).

Solidification Points of Edible Fats

Solidification point curves for butter fat, oleomargarine, coconut oil, palm nut oil, hardened arachis oil, lard, and others were made. The greatest softening by Mohr's method was found to be ±10.2 per cent with an average of ±0.1 per cent. Good margarines show similar solidification curves to that for butter fat.—T. Meyer (Zeitschr. Unters. Lebensmittel *52*, 461-65).

The Chemistry of Palm Oil

The principal odoriferous constituent of palm oil is suggested as being an oxidation product of the carotin present. The crude oil during preparation and storage undergoes enzymatic hydrolysis, the more unsaturated glycerides being attacked first. Only palmitic and oleic acids were detected in appreciable quantity and the presence of more unsaturated acids than the latter is doubtful. Palmito-distearin was found in hardened palm oil. Tripalmitin was prepared from the neutral oil, the total amount of which is about 10%. The presence of triolein, oleo-dipalmitin and dioleo-palmitin was demonstrated.—W. Brash (J. Soc. Chem. Ind. *45*, 438T.)

Investigation of Drying Oil Films

Films of linseed and poppyseed oils dried in ultra-violet light, i. e., direct sunlight, showed a loss of weight following the first sharp increase due to oxidation. Paints made with these oils as vehicles showed this effect in exaggerated form, the weight of the films after twenty days' exposure being considerably less than at the outset. The normally dried film is supposed to consist of glycerides of oxy-acids but this cannot be substantiated by chemical investigations. Neither reduction with usual reducing agents, nor acetylation will yield products which may be identified but simply tars which cannot be handled. The oxidized films are condensation products of the intermediately formed peroxides and are not true oxy-glycerides.—A. Eibner and H. Mumzert (Chemische Umschau., April 13, 1927. pp. 101-108).

Palm Oil

Clayey, hard packed soils exert a deleterious influence upon the growth of oil palms. Soft soils rich in humus are most favorable. Five or six years ago the yield of oil was 22 per cent of the weight of the fruit. The yields have mounted progressively to 24 and 25 per cent and today 27 per cent is obtained. The new method of extracting with benzine will permit the works in a very short time to extract 29 to 30 per cent of the weight of the fruit. Due to sterilization procedure recently introduced, the acid content of the oil has dropped from 12-15% to 5-6%.—M. Ferrand (Bull. de Matières Grasses, de L'Inst. Col. de Marseille, No. 1. 1927. pp. 3-13).

New Way Developed for Testing Flaxseed

Oil Content Determined in 15 Minutes, Says Agriculture Department

A simple, rapid method for determining oil content of flaxseed has just been developed by the Chemical Research Laboratory of the Bureau of Agricultural Economics, Department of Agriculture, according to an announcement of a new bulletin dealing with oil content of flaxseed and with the production and consumption of flaxseed. The full text of the announcement follows:

A simple method for testing flaxseed and linseed cake to determine the oil content of these products has been developed by the Chemical Research Laboratory of the Bureau of Agricultural Economics, Department of Agriculture.

Laboratory research has shown a wide variation to exist in the oil content of the various qualities and classes of foreign and domestic grown flaxseed. Extensive tests have been made of the flaxseed crops for the years 1919-24, inclusive, the result of which has been the development of a method of testing which in 15 minutes gives correct oil content.

Details of the Department's study, together with a description of the test method recommended, have been published in United States Department of Agriculture, Department Bulletin 1471-D, entitled "Oil Content of Flaxseed, with Comparisons of Tests for Determining Oil Content," copies of which may be had of Federal Grain Supervisors or upon request to the Department of Agriculture, Washington, D. C.

The bulletin deals with the production and consumption of flaxseed in the United States, world production and trade in flaxseed, oil content of flaxseed by classes, physical tests for determining oil content, inspection and grading of flaxseed, relation between numerical grade of domestic flaxseed and oil content of the sample, and a simple, rapid test for determining oil content, and should be of interest to all who handle linseed.

Oilseed Cake Proves Valuable in Commerce

United States Exports About Fourth of World's Output, Around 3,000,000 Tons

Oilseed cake and meal, derived largely from cottonseed, linseed, sunflower, peanut and coconut, furnish an item that approach an $80,000,000 value in world commerce, the Foodstuffs Division of the Department of Commerce announced in a statement recently. About one-fourth of all the exports, particularly cottonseed cake and meal and linseed cake, originate in the United States, according to the statement. The full text of the announcement follows:

The United States exports about one-fourth of the world's total export of oilseed cake and meal, of which 2,000,000 to 3,000,000 tons valued at from $70,000,000 to $80,000,000 enter annually into international commerce, being used chiefly for cattle feed.

Exports in Tonnage

In 1925 (the latest year for which comparable data are available for most of the important countries dealing in oilseed cake) the United States exported 675,000 metric tons (744,000 short tons) or about one-fourth of the world total. The next most important sources of these products are Germany, Russia, India, France, Egypt, the Philippine Islands, Italy, the Netherlands, Argentina and Canada. The United Kingdom is an important re-exporting country. There are a number of exporting countries of secondary importance, among which may be mentioned Brazil, Peru, British East Indies, Czechoslovakia, and Spain.

Of the importing countries Denmark stands far in the lead, with 753,000 tons or more than one-fourth of the world total, followed by the United Kingdom, Germany, the Netherlands, Belgium, Sweden, and France. Other importing countries which purchase relatively large amounts of oilseed cake are Ceylon, Japan, Norway, and Switzerland, the first two taking as much as 50,000 tons in some years.

Handled in Commerce

At least 10 kinds of oilseed cake are handled in international commerce, the most important being cottonseed, linseed, sunflower, peanut, and coconut. Seeds of secondary importance in the manufacture of oilseed cake are rape, hemp, soy beans, sesame, palm kernels, and castor beans.

The chief sources of cottonseed cake and meal are the United States and Egypt; sources of lesser importance are Brazil, Peru, India, Chile and Mexico. The total exports from these minor countries amount to about 60,000 tons yearly, compared with 400,000 from the United States and 130,000 from Egypt.

Linseed cake is derived chiefly from the United States, Russia, Germany, India, Argentina and Canada. Sunflower, rape and hemp seed are obtained mostly from Russia, though Poland, Denmark, Rumania and Latvia also export considerable sunflower seed cake.

Exports of Peanut Cakes

India and France are the chief exporters of peanut cake, the Philippines of coconut cake, and Manchuria of soy-bean cake. Castor-bean and sesame-seed cake are exported mainly through India and the surrounding countries, while palm-kernel cake is exported chiefly from Germany and the United Kingdom—*Jour. of Com.*