Abstracts

Oils and Fats

Edited by
M. M. PISKUR

THE USE OF THIOCYANOGEN VALUES IN THE DETERMINATION OF LINOLEIC AND LINOLENIC ACIDS AND THEIR GLYCERIDES. T. P. Hilditch and K. S. Murti. *Analyst* 65, 437-46 (1940).

WIJS IODINE METHOD. J. W. McCutcheon. *Ind. & Eng. Chem. Anal. ed.* 12, 465 (1940). The Wijs I value, as prescribed in the official methods of the AOCS, gives results on the unsatd. acids and esters of the oleic series that lie very close to 98.8% of the theoretical unsatn. The reliability of the method is somewhat greater than is generally supposed, altho corrections should be applied when the I value is to be used as a measure of the purity of a compd.

NEW DEFINITION OF LARD ANNOUNCED BY SEC. WALLACE. *Natl. Prov.* 103, No. 7, 13, 39 (1940). Lard.—the fat rendered from fresh, clean, sound, fatty tissues from hogs in good health at the time of slaughter, with or without lard stearin or hardened fat. The tissues do not include bones, detached skin, head fat, ears, tails, organs, windpipes, large blood vessels, scrap fat, skimmings, settlings, pressings, and the like, and are reasonably free from muscle tissue and blood. Rendered pork fat.—the fat, other than lard, rendered from clean, sound carcasses, parts of carcasses, or edible organs from hogs in good health at the time of slaughter, exc. that stomachs, tails, bones from the head and bones from cured or cooked pork are not included. The tissues rendered are usually fresh, but may be cured, cooked, or otherwise prepared and may contain some meat food products. Rendered pork fat may be hardened by the use of lard stearin or hardened lard, or by rendered pork fat stearin or hardened rendered pork fat.

SEED FATS. II. LOW-TEMPERATURE CRYSTALLIZATION OF COTTONSEED OIL. T. P. Hilditch and L. Maddison. *J. Soc. Chem. Ind.* 59, 162-171 (1940). The chief glycerides in the cottonsed oil examined are about 58% of satd.—(mainly patlmito-) di-unsatd. glycerides, accompanied by about 28% of tri-unsatd. glycerides, smaller proportions (13%) of mono-unsatd.-disatd. glycerides, and very small traces of tripalmitin. Of the main components, 35-40% are probably palmito-oleolinoleins, with 20% or somewhat more of palmitodilinolins and possibly small amts. of palmitodiolin; oleodilinoleins form probably almost the whole of the triunsatd. glycerides, although here again small amts. of trilinolein are not excluded; the minor quantities of mono-unsatd. glycerides are made up of somewhat more linoleo- than oleo-compds., and the satd. acyl radicals present quite possibly include one palmitic and one minor component satd. acid (myristic, stearic, or arachidic in most of the triglyceride mols. in this group).

THE CHEMISTRY OF KETONE RANCIDITY. I. DECOMPOSITION OF FATTY ACIDS BY PENICILLIUM GLAUCUM. H. Thaler and G. Geist. *Bichem. Z.* 302, 121-36 (1939). Acetone can be formed from all satd. fatty acids contg. 4 to 14 C. Contrary results by other observers are thought to be due to the fact that they used glucose or peptone in the nutritive medium, which the mold uses preferentially as the C source. It seems probable that ketone formation is related to the degree of development and growth of the mold, and is generally most intense during the first 8-10 days. II. FORMATION OF METHYL KETONES FROM *B*-HYDROXY FATTY ACIDS BY PENICILLIUM GLAUCUM. *Ibid.* 369-83. While the largest formation of ketones from satd. acids is obtained in a strong acid medium (pH 3), in the case of the hydroxy acids this occurs in very weak acid (pH 6) or even in a neutral environment, and the formation falls off quickly in either more acid or more alk. media. It is suggested that the *B*-hydroxy acids of small or medium mol. wt. may be intermediate steps in the ketone formation from satd. fatty acids *(Chem. Abs.)*.

THE SYNTHESIS OF FAT FROM CARBOHYDRATE IN THE FATTY TISSUES. II. K. Felix and W. Eger. *Deut. Arch. klin. Med.* 184, 446-57 (1939). Glycogen, glucose and various intermediate oxidation products of carbohydrates were added to isolated fatty tissues, some of which were shredded to a broth, and both O_2 consumption and R.Q. detd. Glycogen, glucose, pyruvic acid and lactic acid raise both consumption of O_2 and production of CO_2; with the latter 2 the R. Q. is above 1, corresponding to the synthesis of fat in the tissue. The trioses dihydroxyacetone and glyceraldehyde also give values for the R. Q., but it is not certain that this is due to a true metabolic reaction *(Chem. Abs.)*.

PATENTS

METHOD OF DECOLORIZING OIL. E. C. Bierce. *U.S. 2,211,489.* Calcined alumite free of sol. salts of Na and K is used as the decolorizer.

PROCESS OF PURIFYING EDIBLE OILS AND FATS. J. L. Jakobsen (General Mills, Inc.). *U.S. 2,210,548.* Colloidal or dissolved metals such as Fe, Al, Mg and Ca are removed from fats and oils by treatment with concd. HCl then adding water and separating the oil after a settling step.

PROCESS OF FRACTIONATING FATTY ACIDS. R. H. Potts and J. E. McKee (Armour and Co.). *U.S. 2,212,127.* A special fractionator is described.

DISTILLATION OF FATTY ACIDS. M. H. Ittner (Colgate-Palmolive-Peet Co.). *U.S. 2,202,007-8.* App. is described.

STABILIZING OF OIL, MEDICAL PREPARATION, SHORTENING, ETC. B. H. Thurman (Refining, Inc.). *U.S. 2,201,061-4.* Phosphatides contg. fat acids less unsatd. than linoleic acid are used in medical food products. These improve the stability of the product.

STABILIZATION OF GLYCERIDE OILS. S. Musher (Musher Foundation). *U.S. 2,198,213.* Phosphatides or other P compds. and sugar are added to fats and oils and the charge is heated to 220°F.

LUBRICANT. W. B. Hendrey (Texas Co.). *U.S. 2,212,020-1.* Phosphatides and high mol. wt. alcs. are added to lubricating oil adapted for the lubrication of cylinders and bearings.

ACETYLATED OIL AND METHOD OF MAKING SAME. A. E. Rheineck (Devoe & Raynolds Co.). *U.S. 2,210,-305.* The oil (oiticica oil) is acetylated until it has the property of drying in a short time and forming a smooth, tough and glossy film.