Letter to the Editor

December 3, 1956.

We wish to thank B. K. Mukherji for calling attention (J. Am. Oil Chemists' Soc., *33*, 537) to his paper published in the Indian Soap Journal, *20*, 187 (1955). The paper is unfortunately not listed in Chemical Abstracts, and this explains the omission of reference.

The paper on "Use of Ion-Exchange in Rapid Estimation of Fatty Acids in Soap" by Dutta and Mukherji uses the well-known principle of salt splitting by cation exchange resins and employs coal sulfonated in the laboratory as the cation exchanger. The utilization of Dowex 50 resin is recommended in our paper as more convenient. By using a small sample (0.2–0.5 g.) and following with a complete washing, there is no hold-up, and one column, in contrast to the method of operation of Mukherji, may be used for a considerable number of determinations. There is no need to select a particular fraction inasmuch as the total effluent is titrated. Finally it is difficult to estimate the accuracy and precision of their method since only one example is published.

If Dutta and Mukherji were to elute further with solvent, it would eliminate the need for taking a particular fraction of the total effluent with subsequent correction for the weight of sample remaining in the column. They will then have a method which should prove analytically sound and practical.

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ABSTRACTS . . .

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• Oils and Fats

Castor oil, an important raw material in the chemical industry. St. Anastasiu. *Rev. chim.(Bucharest)* 6, 587–90(1955). Castor oil from *Ricinus communis* seeds containing approximately 87% ricinoleic acid is used extensively in the Rumanian chemical industry. Several of its reactions, such as esterification with mono- and dibasic acids, catalytic hydrogenation, thermal degradation, and preparation of heptanal and hendecenoic acid by cracking are reviewed. (*C. A.* **50**, 17485)

Close control of flow and temperatures in soybean oil extraction. M. R. Spencer and G. Weyermuller(Central Soya Co., Chattanooga, Tenn.). *Chem. Processing* **19**(6), 10–11(1956). Instrumentation is described and illustrated. (*C. A.* **50**, 17486)

Measurement of the rancidity of oils by the surface tension. Máximo Da Fieno V. and Rebeca Botton R. *Rev. fac. quím. Univ. nacl. mayor San Marcos(Lima, Peru)* 7(1), 32–5(1955). Data are given to show that surface tensions for soybean, cottonseed, peanut, castor, and olive oils increase with increase of acid content. Surface tensions were determined with a Du Nouy tensiometer. (*C. A.* **50**, 17485)

Use of light absorption measurements as a means of determining colored impurities in glycerine. H. Weiss. *Chem. -Ztg.* **80**, 129–30(1956). Data have been obtained to indicate that the light absorption of glycerol varies with the water content. With a blue filter the light absorption increases sharply as 88% glycerol is diluted with water to a concentration of 83.6%. At this point with continued dilution the absorption decreases until a concentration of 72% is reached, at which point further dilution produces no change. The use of light absorption measurements for the purpose of detecting colored impurities must, therefore, be modified by the dilution of the sample and the comparison glycerol standard below the 72% point. (*C. A.* **50**, 17481)

Method of refining rapeseed oil. I. Decolorization by heat-treatment. Susumu Kajizuka and Seijiro Akatani(Yamagata Univ., Tsuruoka). *J. Yamagata Agr. Forestry Soc.* 7, 18–20(1954). The decolorization of rapeseed oil can be achieved by heat-treatment at 250° for 5 minutes. The decolorization ratio was about 90%. The loss of oil was negligible. Heat treatment did not raise the acid number. **II. Decolorization by heat treatment of extracted rapeseed oil.** *Ibid.* 8, 20–2(1955). The oil used in the above report was obtained by pressing with the expeller. Solvent extracted rapeseed oil was also suitably decolorized by the same method. (*C. A.* **50**, 17485)

Polarography in the field of fats. IV. Tert-butylhydroxyanisoles and their electrochemical properties. J. Baltes(Deut. Inst. Fettforschung, Munster/Westf., Ger.). *Fette, Seifen, Anstrichmittel* **57**, 656–60(1955). 2-Tert-butyl-4-methoxyphenol, 3-tert-butyl-4-methoxyphenol, and considerable amounts of the 2,5-di-tert-butyl derivative are formed by the reaction of hydroquinone mono-methyl ether with isobutylene with phosphoric acid as a catalyst. Their polarographic behavior, in view of their antioxidative effects, was investigated to complete an earlier study(*C. A.* **50**, 3117). From the measurements the reaction mechanism of the anodic oxidation is apparent. (*C. A.* **50**, 17480)

The effect of technological operations on fatty oils. V. C. Vidal. *10th Congr. intern. inds. agr. y aliment., Madrid,* **1954**, 3184–95. Ultraviolet absorption spectral curves for pressed, solvent extracted, neutralized, and decolorized peanut oils are compared. (*C. A.* **50**, 17482)

Separation and identification of fatty acids. XVII. Paper chromatography of saturated fatty acids as their 2,4-dinitrophenylhydrazides. Yoshiyuki Inouye and Manjiro Noda(Kyoto Univ.). *Bull. Agr. Chem. Soc. Japan* **19**, 214–9(1955). The 2,4-dinitrophenylhydrazides of acetic, butyric, caproic, caprylic, capric, lauric, myristic, palmitic, stearic, arachidic, and behenic acid were chromatographed on paper impregnated with Tetralin by using alcoholic solution of Tetralin as the moving solvent and alcoholic potassium hydroxide solution as the spraying agent. The 2,4-dinitrophenylhydrazides of odd-numbered acids were obtained as crystals, but used for paper chromatography without recrystallization. Coconut oil, Japan wax, beef tallow, and peanut oil were analyzed for fatty acids by this method. (*C. A.* **50**, 17478)

Antioxygen activity of some fatty acid esters. M. Gayte. *Parfumerie mod.* **48**(50), 67–72(1956). The protective role against oxidation of vegetable oils at 20–60° under ultraviolet illumination was measured for 1% mono- and di-stearate of glycerol, or 2% mono- and di-oleate of glycerol, or 5% monostearate of polyglycol, or 10% Lebrafil(M. Gattefossé). These surfactants have a protective effect against the oxidation of vegetable oils, probably due to a surface effect of the oriented molecules containing hydroxyl groups. (*C. A.* **50**, 17479)

Urea adducts with fatty compounds. X. Adducts with some polyalcohol monoesters. J. M. Martinez Moreno, J. Ruiz Cruz and C. Janer del Valle. *Grasas y aceites(Seville, Spain)* **7**, 147–9(1956). The molar ratios of urea to ester, of a series of urea adducts of monoesters of glycol and glycerol having fatty acid chains of 9–21 carbon atoms are linear functions of the number of carbon atoms of the acids. The urea adducts are prepared by mixing a saturated solution of the ester in an inert solvent with 3:1 excess of urea in methyl alcohol and washing the precipitate with ethyl ether. (*C. A.* **50**, 17480)