ABSTRACTS FROM OTHER JOURNALS

Determination of Melting Point of Cacao Butter. H. Fincke. Z. angew. Chem. **38,** 572. (1925)—Old samples of Cacao Butter should not be re-melted; the capillary tube should be filled by pressing it into the fat. With fresh liquid samples, stirring should be resorted to during solidification, the melting-point determined as above after an interval of at least one month, and again every few days until constant. For a considerable number of samples of pure cacao butter, the limiting values found were 32°-34°, most of the values lying between 32.5° and 33.5°. (Through J. S. C. I. **44,** No. 34.)—G. L. R.

Fat of Goat's Butter. H. D. Richmond, Analyst, **50,** 62-64 (1925).—The author points out that Knowles and Urquhart (Analyst, 1924, 49, 509) in suggesting that Goat's Butter might be condemned as cow's butter adulterated with cocoanut oil, have calculated their mean Polenske figures from Richmond's formula in an incorrect manner. The corrected results show in nearly every case such high Riechert-Wollny figures that no supposition of the sample consisting of cow's butter and coconut oil could be entertained. (Through J. S. C. I. **44,** No. 14.)—D. G. H.

Catalytic actions at solid surfaces. XIII. Factors controlling selective hydrogenation, with particular reference to certain terpene derivatives. E. F. Armstrong and T. P. Hilditch Proc. Roy. Soc. A 108-121-131. 1925.)—The normal course of affairs is the complete hydrogenation of any unsaturated system which has become associated with an active atom of catalyst, and thus when selective hydrogenation of a diethylene compound occurs only one of the unsaturated centres is associated with the metallic catalyst at the moment of catalytic change. In binary mixtures of substances, each containing an ethylene linkage, the less highly substituted is hydrogenated in preference to the other. By application of the latter generalisation to previous investigations of certain turpene compounds (J., 1922, 32A), the positions of the ethylene linkages in certain of these substances have been fixed. (Cf. A., June.) (Through J. S. C. I. **44,** No. 26).—J. S. C.

Environmental factors affecting the protein and the oil content of soya beans and the iodine value of soya bean oil. J. Amer. Soc. Agron. 16, 636, 645. (1924.)—Applications of lime, organic matter, and rock phosphate increased the percentage of protein and decreased the oil content of soya beans. Potassium applied in addition to phosphorus, lime and residues decreased the protein content and increased that of oil. Production of oil was increased by application of organic matter and limestone, whilst phosphorus and potassium had little effect. The iodine value of the oil varied in the different varieties of soya beans; no consistent relation was found to exist between the iodine value and location or soil treatment. (Through J. S. C. I. **44,** No. 14.)—A. A. E.

Polymerisation of fatty oils. J. Marcusson Z. agnew. Chem. 1925, **38,** 148-149; cf. J., 1922, 867 A.—Salway's theory (J., 1920, 324 r) is criticized, Ubbelohde's results ("Analyze und Technologie der Oele und Fette," 1920, II., 357), and the following facts being shown not to agree with it. When tung oil is heated in an atmosphere of carbon dioxide at 280 per cent and the unchanged oil afterwards removed by washing with acetone, benzene, and alcohol, a gelatinous mass remains. This is hydrolysed by hot alcoholic potassium hydroxide; the mixture of acids so obtained has a molecular weight (calculated from cryoscopic measurements, in camphor or glacial acetic acid solution) of about 500. Polymerised linseed oil, isolated in a similar way, is a viscous mass, yielding fatty acids the mean molecular weight of which is again about 500. "True polymerisation" therefore has taken place. These polymerised oils contain no mono- or diglycerides. (Through J. S. C. I. **44,** No. 15.)—W. A. S.

Behavior of alcohol towards acid olive oil. S. Fachini and S. Somazzi. Atti Congr. Naz. Chim. Ind. (1924, 397-399)—Olive Oil can be obtained quite free from acid by repeated washing with 94% alcohol, but a considerable amount of the oil itself also passes into solution. Experiments on mixtures of pure neutral olive oil and of the fatty acids separated therefrom show that the solubility of the oil in alcohol increases with rise in temperature and with the concentration of the fatty acids present. By using comparatively large proportions

of alcohol it is, however, possible to render neutral an olive oil with an acidity as high as 20%, and thus utilise oils which at present are not refined but are used for soap making, etc. (Through J. S. C. I. **44**, No. 15.)—T. H. P.

Manner in which oil and oleic acid behave with water. J. F. Carriere. Rec. trav. chim. (1925, **44**, 121-129).—Whereas the interfacial equilibria of neutral oil-water, or of oleic acid-water, are instantly established, oil containing traces of oleic acid behaves differently from pure oil, owing to passage of acid into the interfacial layer. The anomalous behavior of oil and water which certain observers have attributed to hydrolysis of the oil, is explained as due to the presence of impurities. Because of the use of impure material, the interfacial tensions of neutral oil-water and of oleic acid-water respectively, as given in the literature, require correction to about 26 and 10.5 dynes/cm, respectively at 20°. Whereas neutral oil is not affected by ammonia vapor after establishment of equilibrium on the surface of water, oil containing 0.1% of oleic acid becomes violently disturbed, and this serves for the detection of traces of fatty acids, as distinct from other impurities.—(Through J. S. C. I. **44**, 15.)—F. M.H.

Physical and chemical properties of biosterin (vitamin A) and its physiological significance. K. Takahashi, Z. Nakamiya, K. Kawakami and T. Kitasato (Sci. Papers Inst. Phys. Chem. Res., 1925, **3**, 81-146).—Biosterin was separated from Cod Liver Oil in the manner previously described (J., 1923, 904A), and further purified by extraction of the petroleum ether solution with methyl alcohol, by crystallization from acetone at —65°, and by fractional distillation in vacuo. The final purified product maintains health in rats for several weeks when administered in daily doses of 0.001 mg. as a sole source of vitamin A. In doses greater than 10 mg. daily it is toxic. Biosterin, $C_{27}H_{42}(OH_2$, is a reddish yellow viscous oil, d^{15} 0.9561; n^{20} 1.52517; optically inactive; b.p. 147°/0.2 mm.; mol. wt. 375 approx.; iodine value (Wijs) 178; acetyl value 137. (Cf. A., Nov.). (Through J. S. C. I. **44**, 44.)—P. E.