ABSTRACTS

Resistance of Fat-Soluble Vitamins to Hydrogenation. L. Randoin and R. Lecoq. (*Ann. Falsif.*, 1926, 19, 518-523.)—In order to hydrogenate cod liver oil satisfactorily on a semi-industrial scale with nickel catalyst a temperature of about 180-190° C. is necessary. Such hydrogenated oil (iodine value 28.7) was given to rats showing typical rachitic signs on a Sherman and Pappenheimer No. 84 diet, with the result that a slow rate of growth was maintained, but ophthalmic lesions were not always precluded. Hydrogen under pressure did not inhibit the destructive effect of heat on the fat-soluble vitamins. It was found that butter, and particularly summer butter, was not so wanting in antirachitic properties as has been thought, but margarines prepared with hydrogenated oils are inferior to those with natural oils and fats as sources of fat-soluble vitamins. D. G. H.

On the Growth-Promoting Property of Irradiated Fat in the Diet, of Direct Irradiation and of Cod Liver Oil. H. Goldblatt and A. R. Moritz. (*J. Biol. Chem.*, 1926, 71, 127-137.)—By two methods an attempt was made to compare the growth-promoting power of irradiated fat in the diet, of direct irradiation and of cod liver oil in order to determine whether irradiated fat in the diet can be used in growth-promotion experiments, as a substitute for direct irradiation of the animals. This would be an advantage in the case of small animals, for hooding of the eyes is troublesome and time-consuming, and direct irradiation otherwise induces a conjunctivitis and opacity of the cornea which complicates other eye changes induced by diet, and probably affects the general condition of the animals. Irradiated fat in the diet and direct irradiation possess, to about the same degree, the power to promote gain in weight of rats on a diet deficient in both fat-soluble vitamins (*A* and *D*), but this power is less than that of cod liver oil, which possesses the growth-promoting power to a far greater degree, since it is rich in vitamins *A* and *D*. Thus irradiated oil in the diet can be used in growth promotion experiments as a substitute for direct irradiation of animals, but neither source of radiant energy can act as a complete substitute for cod liver oil unless fat-soluble vitamin *A* is also administered. Radiant energy, administered directly or indirectly, although it prolongs and enhances growth, does not prolong the life of rats on a diet deficient in vitamins *A* and *D*, and does not prevent their developing xerophthalmia.

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(*Feb.* 4, 1927—*Page* 82, *et seq.*)

Rate of Molecular Weight Increase in the Boiling of Linseed and Tung Oils.

Apparatus for Determining the Moisture in Soap by Distillation with Xylene.

Effects of Ultra Violet Light on Paint Vehicles.

Function of Oils and Fats and Emulsion of Oil and Water in Bread Making with Special Reference to Gluten Formation and Modification.

Patents

Refining and Deodorizing Oils and Fats. A. S. Quick (E.P. 261,440, 18.6.25).

Manufacture of Butter Fat Products (U.S.P. 1.605,108).