1. *AOCS Procedures for the Determination of Neutral Oil Ca 9 F-57.* This procedure was approved by the Uniform Methods Committee, issued as an AOCS procedure and adopted by the National Soybean Processors Association for the trading of soybean oil in the fall of 1963. The Smalley Committee sent out four soybean oil samples for analysis this past year. In general, the precision of the test approached that expected and very little difficulty with the method was encountered. The report that some alumina appeared to have an excess amount of fines was discussed with the supplier and a satisfactory solution to the problem was reached. It is not anticipated that further work will be required or that any serious difficulties will arise.
2. *Sampling.* It is expected that a new subcommittee will be appointed to investigate the present AOCS procedures for sampling commercial fats and oils. Some work has been done on this problem already, and it is hoped that a more concerted effort will be made in the near future.

• *Letter to the Editor*

The Configuration of the Disaturated Glycerides in *Garcinia indica* and *Vateria indica* Seed Fats

FROM EXAMINATION of the melting and transition points of crystalline distearooleins from *G. indica* seed fat it was concluded that the disaturated glycerides (DSG) in this fat were exclusively of the sym. type and the same results were obtained with other similar tropical seed fats (1). Results by the pancreas lipase hydrolysis technique also indicated the same configuration patterns for these fats (2,3,4).

A chemical technique for determining the configuration of DSG in natural fats in now being worked out. The fat is oxidised by the acetic acid acetone permanganate technique, resulting azelaoglycerides separated into those giving insoluble and soluble magnesium salts (IAG and SAG, respectively) and the IAG analysed for monoazelains, diazelains, trisaturated glycerides and unoxidised fat it contains (5, 6a,7). The IAG (2–5 g) is then refluxed in acetone (150–200 ml) for 12 hr with 3–5 g anhydrous K_2CO_3 followed by addition of ca. 2 g powdered potassium permanganate, mixing and leaving overnight (16 hr) for oxidation at room temp. Next day the reaction mixture is refluxed for 8 hr and left overnight again after mixing with 1–2 g permanganate. The process is repeated till 80–200 hr refluxing is reached (max of 5 g permanganate/g IAG to be used) after which the reaction mixture is boiled with slight excess acetic acid for 2 hr to destroy all carbonates and then worked up as in oxidation of fats (5,6a,7). The resulting product is submitted to magnesium salt separation to remove the azelaic acid produced by the hydrolysis together with, in some cases, a small amt diazelains which can be readily determined when necessary (5,6a,7). The material recovered from the insoluble magnesium salts is analysed for Bertram acid content from which the percentage partial hydrolysis of azelains is calculated, and for neutral material by an improved calcium salt-ethyl acetate procedure; from these the proportions of sym. DSG in the original fat are calculated.

The technique is based on the facts: (1) that carbonate acetone hydrolysis of azelaoglycerides produces only splitting off of the azelaic acid (6b) and does not attack the fatty acid ester bonds to detectable extents (5,6b,6c,7,8,9) and (2) that random saponification of the azelaic acid radicals will take place since K_2CO_3 is an inorganic reagent. Subsequent oxidation of the resulting partially hydrolyzed azelains will give rise to acidic products in the case of sym. and unsym. diazelains and unsym. monoazelains but will produce neutral derivatives in the case of sym. monozaelains which are isolated and weighed.

The results of applying this technique to *G. indica* and *V. indica* seed fats containing 84 and 76% DSG, respectively have been unexpected. In two estimations with *G. indica* IAG, the percentage partial hydrolyses were 57 and 78 (80 and 200 hr refluxing, respectively) and neutral material produced amounted to 12.7 and 20.1% corresponding to 32 and 38% (avg. 35) sym. DSG, respectively. In case of *V. indica* IAG, two estimations involving 50.7 and 47.7% partial hydrolysis (both 80 hr refluxing) gave 19.92 and 19.98% neutral material corresponding to 62 and 65% (avg. 64) sym. DSG, respectively.

The proportions of sym. DSG in *G. indica* seed fat is nearly the min 33.3% required by Specific Restricted Random Distribution (RRD) Rules A and B (10,11), whereas in *V. indica* seed fat is well above the max of ca. 55% required by Specific RRD Rule A, and agrees better with the max range of 55–69% with varying fatty acid specificities required by Specific RRD Rule B. Configuration of Natural Fats hence appears to be a Specific Characteristic of biologic source and is perhaps capable of wide variations according to Specific RRD Rule B. Esterification of fatty acids in fat depots appear to be effected by an α-β lipase mechanism with fatty acid specificity as well (10,11). Full details of experiments and calculations will be published later.

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