

# THE GLYCERIDE COMPOSITION OF FATS AND OILS

## Part I. Mowrah Oil

BY A. R. SUKUMARAN KARTHA, T. A. VENKATASUBRAMANIAN

AND

K. N. MENON

(*Maharaja's College, Ernakulam*)

Received May 3, 1944

IN an earlier publication<sup>1</sup> from this laboratory a tentative method for estimating the unsaturated glycerides in fats and oils was suggested. We have commenced the systematic examination of a number of oils in order to get data concerning the glyceride composition, as such data are required in connection with another investigation engaging our attention.

In the original oxidation method developed by Hilditch and co-workers a comparatively large quantity of fat is oxidised. Due to difficulties arising from the war, it became absolutely necessary to economise in chemicals and so we have developed a method, which we feel does not sacrifice accuracy, and in which not more than ten grams of the oil is required to carry out the investigation. The amount of saturated acids present has to be accurately known and in suitable cases we have now utilised a standard method by which this can be accomplished without the usual separation and ester fractionation. The material left after determining the saponification equivalent of the azelao-glycerides is utilised to estimate the percentage of saturated acids according to Bertram's method.<sup>2</sup>

Mowrah oil has been previously investigated with respect to its component acids by Gill and Shah<sup>3</sup>; Dhingra, Seth and Speers<sup>4</sup> and by Hilditch and Ichaporria.<sup>5</sup> Hilditch and Ichaporria made a detailed investigation of the component glycerides by the fractional crystallisation technique.

### EXPERIMENTAL

6.62 grams of the oil was oxidised yielding 3.2412 grams of bicarbonate insoluble fraction containing  $GS_3$ ,  $GS_2A$ , and  $GSA_2$ . This was saponified with KOH and the alkali used up for saponification corresponded to 33.08 c.c. of 0.5129 N HCl, giving a saponification value of 293.9.

The  $GS_3$  content of the oil was 1% corresponding to an S.V. of 197.7 based on the ratio of the saturated acids.