CXVII. NOTE ON THE UNSAPONIFIABLE MATTER OF YEAST-FAT.

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DURING an investigation on the phospholipins of yeast, the results of which were recently described by us [1927], we determined the iodine value of the total unsaponifiable matter of yeast fat. The particular specimen examined gave an iodine value of 95.5: about 50 % of this material consisted of a sterol precipitable by digitonin and giving iodine values lying between 188 and 200. We therefore made the deduction that the unsaponifiable matter consisted partly of sterol and partly of a saturated substance.

Further investigation of the unsaponifiable matter shows that this deduction is not generally true for most of the specimens of unsaponifiable material which have been subsequently examined. One reason for this is that the iodine values of the unsaponifiable matter vary widely according to the particular sample of yeast employed and according to the method used for the isolation of the unsaponifiable matter. After removal of the sterol precipitable by digitonin, an oil may be obtained giving a very high iodine value.

It was shown by Smedley-MacLean and Thomas [1920] that the iodine values of the sterols determined by Wijs' reagent gave variable values often twice as great as those determined by means of Hubl's reagent. Even with the latter reagent abnormally high values may be obtained, and our recent results have confirmed the opinion that, in this case too, variable results may be obtained unless the conditions are very carefully controlled.

That part of the unsaponifiable matter of yeast-fat which is not precipitated by digitonin appears to vary considerably in its composition, and its degree of unsaturation is very largely influenced by the particular method of saponification used and by the subsequent treatment the material undergoes. Other highly unsaturated and probably labile substances are present in varying proportion. An investigation is at present in progress which it is hoped will throw some light on the nature of the complex mixture of substances included under the designation of the unsaponifiable matter of yeast-fat.

REFERENCES.

- Smedley-MacLean and Daubney (1927). *Biochem. J.* **21**, 373.
Smedley-MacLean and Thomas (1920). *Biochem. J.* **14**, 483.