

XLIII.—*Note on the Estimation of Furfural.*

By C. SMITH.

THE results in the preceding paper were obtained uniformly by the method of first *dissolving* the substance in a mixture of aqueous sulphuric and hydrochloric acids containing 57·3 per cent. H_2SO_4 and 5·5 per cent. HCl , then diluting with hydrochloric acid of 1·06 sp. gr. and distilling the substance with this acid, following in this and other respects the process given by Tollens (*Landw.-Versuchs. Stat.*, **42**, 381). It was presumed that this modification of the ordinary procedure would give maximum numbers, but it has been found by careful comparison with the results obtained with hydrochloric acid alone, that in many cases the change of method is without effect on the result; only in the case of the germinated barley was there any substantial increase in the yield of the aldehyde. The following results of comparative determinations may be put on record.

| | Furfural obtained from substance previously dissolved in H_2SO_4 — HCl . | Furfural obtained by direct distillation of substance with HCl , Aq (1·06 sp. gr.). |
|-------------------------------|--|---|
| Jute | 8·3 per cent. | 8·3 per cent. |
| Esparto "cellulose" | 12·2 " | 12·5 " |
| Straw "cellulose" | 12·6 " | 14·5 " |
| Germinated barley | 10·3 " | 7·2 " |
| Original barley | 5·5 " | 5·7 " |

So long as the mechanism of the condensation remains unexplained, it is expedient to continue observations in this direction, as the yield under any conditions of more or less arbitrary selection may not represent the maximum; and any definite variations ascertained may tend to the further elucidation of the process.

King's College,
London.