5. Fatty matter other than natural wool-fat, present in slipe wools to an amount of from two to six times that found in greasy wools, and picked up by the wool from the greasy underside of the skins during the washing process, has a retarding effect on the amount of moisture absorbed.

By thoroughly washing wool, as in the case of slipe wools, not only are the incrustating and adhering matters washed out, and so a less weight of the product obtained, but a further deduction in weight has to be allowed for, because the wool is incapable of absorbing the same amount of moisture from the atmosphere which it could absorb in a greasy state, before the natural fat and suint were partially removed. The amount of moisture which slipe wool can absorb from the atmosphere does not reach the legal standard of 18·25 per cent. allowed.

For permission to publish these results the author desires to thank the Christchurch Meat Company (Limited), in whose chemical laboratory at Islington most of the work in connection with this investigation was carried out.

Art. XXV.—*The Formaldehyde Method for the Estimation of Nitrogen in Organic Substances.*

By A. M. Wright, F.C.S.

[*Read before the Philosophical Institute of Canterbury, 1st December,* 1909.]

The reaction between ammonia and formaldehyde, whereby hexamethylenetetramine is formed, has been used for some time as a means of estimating formaldehyde, but the reaction has only recently been utilised for the estimation of ammonia.

Bennett* has shown that the reaction can be made use of for the estimation of nitrogen in certain organic substances after digestion with sulphuric acid according to the well-known Kjeldahl method. He applied the method particularly to the determination of nitrogen in leather-factory control, and has shown that accurate results can be obtained for nitrogen in leather and tannery lime liquors.

The substance under examination is digested with sulphuric acid and sulphate of potash until the liquor is clear; the excess of acid is neutralised with sodium-hydrate solution, using phenolphthalein as the indicator; a neutral solution of formaldehyde is added, liberating the sulphuric acid present in combination with ammonia; hexamethylenetetramine is formed, which is neutral to phenolphthalein; the liberated acid is titrated with decinormal alkali-solution until the pink colour returns.

It is not so much claimed that this method effects a saving of time, but rather that no special apparatus is required for carrying out the determination, the whole operation being conducted in one flask.

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* Journ. Soc. Chem. Ind., vol. xxviii, 1909, pp. 291, 292.

The author has investigated this method as applied to the estimation of nitrogen in meat-products, organic nitrogen in fertilisers, and dried tankage and blood.

The following results were obtained, the amounts of nitrogen found by the formaldehyde method and the Kjeldahl method being shown :—

	Nitrogen found (per Cent.).	
	Formaldehyde Method.	Kjeldahl Method.
MEAT-EXTRACT.		
Sample No. 1	8·44	8·42
„ 2	9·02	9·02
„ 3	8·76	8·76
„ 4	8·58	8·56
MIXED COMMERCIAL FERTILISERS.		
Sample No. 1	4·23	4·23
„ 2	4·26	4·25
„ 3	2·74	2·74
„ 4	2·88	2·88
„ 5	3·96	3·98
„ 6	3·72	3·72
„ 7	4·25	4·27
DRIED TANKAGE.		
Sample No. 1	7·26	7·25
„ 2	8·31	8·32
„ 3	6·72	6·72
„ 4	8·26	8·25
„ 5	7·33	7·33
„ 6	7·21	7·20
„ 7	8·08	8·08
DRIED BLOOD.		
Sample No. 1	12·74	12·74
„ 2	13·22	13·20
„ 3	13·04	13·04
„ 4	14·26	14·26
„ 5	13·88	13·87
„ 6	14·52	14·52

For permission to publish these results the author desires to thank the Christchurch Meat Company (Limited), in whose laboratory at Islington most of the work in connection with this investigation was carried out.