

Qualitative examination of a number of residues obtained from rye whiskey showed them to consist chiefly of glucose, cane-sugar, tannin, glycerine and resinous matters. The total amount of residue available was not large enough to permit accurate quantitative separations.

The following examination of the solid residue in a few of the samples was made by Mr. Babington:—

No	Grammes per Litre.							
	9359	10220	10226	10229	10230	10234	10236	10242
Total residue.....	·237	·341	·501	·225	3·061	·077	·235	·254
Insoluble residue.....	·028	·010	·002	·013	·018	·005	·018	·001
Soluble residue.....	·209	·231	·499	·212	3·043	·072	·217	·253
Cane sugar.....	·006	·015	·049	·017	1·53	.....	·006	·006
As invert sugar.....	·022	·041	·216	·056	2·48	.....	·044	·070
Precipitated by hydrochloric acid soluble in alkali.....	.....	.....	Ppt.	Ppt.	Ppt.	Ppt.	Ppt.	Ppt.
Difference between gravities.....	·0015	·0010	·0006	·0008	·0045	·0015	·0010	·0011
Residue, grammes per litre	0·948	0·964	2·004	0·900	12·244	0·308	0·940	1·016

It appears that where the residue is high, as in 10230, the invert sugar found bears a high ratio to the total weight of the soluble residue. In other cases the invert sugar found is low. Sweetness may be given to the liquor, in such instances, by glycerine, or other substitute for sugar; and there can be little doubt that many of the liquors sold as rye whiskey contain added glycerine. In order to determine the probable loss on drying a glycerine residue in asbestos at 100° C., the following experiments were made:—

Experiments made by Mr. Tourchot.	LOSS OF WEIGHT AT 100° C. (PER CENTAGES).		
	15 hours.	21 hours.	40 hours.
	Experiment 1	2·49	2·49	4·54
do 2	3·41	3·54	5·46
	6 hours.	17 hours.	
do 3	5·48	6·76	
do 4	6·60	7·94	
do 5	4·92	5·96	

The same sample of glycerine was used in all these experiments.

Experiment 1—2·291 grammes glycerine added to dry asbestos tube, and exposed in water oven to temperature of 100° C.

do 2—2·345 grammes glycerine as above.

do 3—2·026 do do

do 4—2·180 do do

do 5—Five grammes glycerine dissolved in 250cc. alcohol of sp. gravity 0·9512, concentrated on the water bath, and finally dried in asbestos tube.

From these experiments it appears that glycerine loses in weight at 100° C. when exposed to dry air in asbestos tubes; that the weight lost depends upon the time of exposure, but is variable between 3 and 5 per cent., for reasons not made apparent by