

EXTRACT OF MALT.*

Extract of malt has become a popular dietetic remedy, and is particularly esteemed as a demulcent and nutritive food for children. Its syrupy appearance, however, offers many inducements to fraud. The simplest and cheapest adulterant is glucose (syrup), which is in general use by brewers to increase the amount of extractive matter in beer. But there is no ready method known to detect this admixture. And as a complete analysis is in most cases impracticable, the consumer must generally rely upon the honesty of the manufacturer.

Hager reports having received a sample of malt extract, which in external appearances resembled the genuine completely, although it had a peculiar faint foreign taste.† From its behaviour towards reagents, in which it greatly differed from the genuine, it was judged to be a mixture of glucose, glycerine, and about thirty per cent. extract of malt. To confirm these results, comparative reactions were made with three samples of extract of malt, one of which had been evaporated in an open vessel, and had a darker color than the others. The main difference between extract of malt and glucose (syrup) is probably the amount of soluble modifications of protein-bodies in the former. It might be conjectured that the adulteration with glucose would produce a greater amount of reduction in alkaline copper solution. But the results obtained do not permit any such conclusion to be drawn; one gramme of the three last named extracts reducing respectively 43, 44.5, and 46 c.c. of the copper solution, while the submitted sample (X) reduced 48.5 c.c.

The presence of glycerine in moderate quantity, say up to 10 per cent., cannot be called an adulteration, as it is no doubt added for the purpose of preserving the extract; but then the glycerine must be employed in a pure state. The above mentioned sample of extract (X), however, contained 26 per cent. of glycerine (extracted by ether-alcohol), which could not have been very pure, owing to the considerable quantity of calcium chloride present.

Hager considers the examination of the following points sufficient to decide on the genuineness and qualities of a malt extract.

1. The extract must have its own peculiar sweet taste and the refreshing odor of fresh bread.
2. The watery solution must be nearly clear. On dissolving 5 gms. of the extract in 45 gms. of distilled water, under stirring and without heat, a slightly cloudy solution is obtained, which may be filtered without difficulty. The insoluble matters were found to be different under different circumstances, and consisted of amorphous

*From New Remedies.

†In the course of the paper, this sample is distinguished by X.