

Review of Current Technical Literature.¹

FERMENTS OF RUM. *E. Kayser. Comptes rendus, 1915, 161, 181-184.*

In continuation of previous investigations,² the author has studied the relative capacities for producing volatile acids under different conditions of the three types of yeasts concerned in the production of rum, namely: (1) bottom fermentation yeasts; (2) *Schizosaccharomyces*; and (3) film yeasts (*levures à voile*).

Using malt extract containing sugar, it was found that the production of fixed and volatile acids and the crop of yeast was the same with *Schizosaccharomyces*, whether the depth of liquid was 15 mm. or 15 cm.; and that the other two types of yeast produced much less fixed acid but larger yeast crops in the shallow than in the deep liquid. It was further found that the shallow medium proved favourable to the formation of volatile acids by bottom fermentation yeasts, but unfavourable in the case of film yeasts, the volatile acids produced being acetic, butyric, and formic acids. When these mixed acids in the form of salts were treated with sulphuric acid and ethyl alcohol, the characteristic odour of rum was observed, the aroma being more agreeable in the case of the acids derived from bottom fermentation yeasts, while in the other cases it resembled that of arrack.

Acidification of malt extracts with tartaric acid (up to 1.5 per cent.) lead to increased production of formic acid, but diminished production of yeast and butyric acid. The amount of formic acid produced increased on passing from a neutral to an acid medium, yeasts of types (2) and (3) giving the maximum amount, but the amount of butyric acid was highest in neutral media. In experiments with bottom yeasts and *Schizosaccharomyces*, using molasses worts treated with equal amounts of combined nitrogen in different forms, it was found that inorganic nitrogen (viz., ammonium sulphate) increased the production of acetic acid, amide nitrogen (viz., asparagin) that of formic acid, while peptone slightly diminished the amount of butyric acid formed. Both these types of yeast produced relatively more butyric acid at 25°C. (77°F.) than at 35°C. (95°F.).

JUICE EXTRACTION, USING STEAM AT THE TURN-PLATE. *James Mallon. La. Planter, 1916, 56, No. 7, 109, and 1916, 56, No. 8, 120.*

Some years ago the author tried a method of juice extraction in which steam in place of water was used, the application being made in the line of the turn-plate, but owing to the defective chemical control obtaining at that time he was unable to observe any advantage. Now, however, with improved methods of working and of control he has found a very appreciably improved extraction, with little or no dilution of the juice.

Recent experiments made at the Audubon Park Station showed that with and without steam the values for extraction were as follows:—

Without Steam.	With Steam.
Per cent.	Per cent.
73.73	79.08
70.87	74.35

while tests made at the Bonvillain Plantation, Louisiana, and analyses made in the Southdown Laboratory, showed these results:—

	Without Steam.	With Steam.
	Per cent.	Per cent.
Brix	15.23	15.37
Sucrose	11.75	12.00
Purity	77.15	78.07

¹ This Review is copyright, and no part of it may be reproduced without permission.—(Editor, *I.S.J.*)

² *I.S.J.*, 1915, 383.