absorb toxic materials that may inhibit germination. One aliquot was plated unheated, another was heated at 95 C for 10 minutes, the third was inoculated into a 10^{-6} dilution of furfural for 30 minutes, and the fourth was treated with furfural but also subsequently received the heat treatment. The facultative thermophiles were incubated at 37 C and 55 C and the obligate thermophiles at 55 C for 48 hours. Counts made at 24 hours, however, did not materially increase in 48 hours. Table 1 gives the results of these experiments. It will be noted that in all cases treatment with furfural has given viable spore counts comparable to those obtained following heat treatment, whereas a combination of the two gave little additional increase. Incubation at 37 C resulted in lower total counts in the same time interval but gave analogous results with incubation at 55 C.

Table 2 shows the effect of incorporation of the furfural into the plating medium. At high concentrations an inhibition of both germination and growth occurs, but at low concentrations a marked increase in viable count is noted.

The mode of action of furfural is unknown, but it may act as a reducing agent. However, when thioglycolate is used at 0.1 per cent or at a 10^{-6} dilution, the activation is not noted. Furfural has no effect on the growth of vegetative cells except at high concentrations (table 2, strain no. 1503) demonstrating that the action is probably solely upon germination. The possibility that furfural acts in removing toxic materials from the medium is under investigation.

A SELECTIVE MEDIUM FOR THE ISOLATION AND ENUMERATION OF ORAL AND FECAL LACTOBACILLI

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Received for publication April 12, 1951

The difficulty of isolating and enumerating lactobacilli from natural sources, in which these organisms are only a small part of the total flora, is well recognized. Tomato juice agars, which have been employed as highly favorable media for lactobacilli, have the disadvantage that they are not entirely selective for lactobacilli even at an acid reaction since yeasts, molds, streptococci, spreading growth, etc., may occur with varying frequency and thus interfere seriously with the successful isolation and enumeration of the lactobacilli.

Therefore, the following medium was developed for the selective isolation of oral, vaginal, and fecal lactobacilli: trypticase, 10 g; yeast extract, 5 g; KH_2PO_4, 6 g; ammonium citrate, 2 g; salt solution, 5 ml; glucose, 20 g; sorbitan monooleate, 1 g; sodium acetate hydrate, 25 g; acetic acid, 1.32 ml; agar, 15 g; distilled water to 1 liter. The final pH is 5.4. The salt solution comprises: $MgSO_4 \cdot 7H_2O$, 11.5 g; $MnSO_4 \cdot 2H_2O$, 2.4 g; or $MnSO_4 \cdot 4H_2O$, 2.8 g; $FeSO_4 \cdot 7H_2O$, 0.68 g; and distilled water to 100 ml.

Strains of *Lactobacillus casei*, *L. fermenti*, *L. acidophilus*, *L. brevis*, *L. buchneri*, *L. plantarum*, and some probable new species were plated repeatedly on the foregoing medium and also on tomato juice agar prepared according to the method of Jay and Arnold (Dental Caries and Fluorine, Science Press, pp. 43, 1946). The numbers of lactobacilli were comparable on the two media.

Approximately 2,000 oral samples from man and hamsters were also plated on the new medium and on the foregoing tomato juice agar. It was found that the numbers of lactobacilli were generally comparable on the two media. In addition, the extraneous organisms present on tomato juice agar were absent on the new medium except for the very infrequent occurrence of yeasts in markedly reduced numbers.

Lactobacilli from hamster fecal samples were isolated in abundant numbers on the new medium whereas other media were unsatisfactory because of spreading growth completely obscuring the plates. The new selective medium has also been used for the isolation of vaginal lactobacilli.

It was found in repeated experiments that the new selective medium does not require autoclave sterilization. The heat necessary to dissolve the agar seems sufficient to maintain the medium free of contamination at least six months in the refrigerator.

The details of these experiments will be published elsewhere.

A MEDIUM FOR THE ISOLATION OF PURE CULTURES OF CELLULOLYTIC BACTERIA

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Received for publication April 16, 1951

Cultures obtained from media containing cellulose, in the form of filter paper or cotton, are of doubtful purity because the opacity of the medium hampers the detection of noncellulolytic colonies adjacent to those of the cellulose-decomposing bacteria. Therefore, at the present time, serial passage through media containing cellobiose is accepted as the criterion of culture purity for cellulolytic bacteria. Although cellobiose is a product of the hydrolysis of cellulose, it was felt that a more logical procedure might be to attempt to isolate pure cultures of the cellulose-dissolving bacteria on a clear medium containing cellulose.

For this series of experiments, the heavy membrane or mat formed by *Acetobacter xylinodes* was used. The organism was grown for 7 days at 30 C in a sugar-alcohol medium described by Aschner (J. Bact., **33**, 249, 1937). The harvested membranes were clarified by the following treatment: They were washed in running water for 8 hours and then placed in 5.0 per cent NaOH for two 24-hour periods. The purpose of the alkali was to remove most of the bacterial protein without disturbing the thick cellulose covering surrounding the bacteria.