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A Substitute for Beerwort as a Yeast Medium in the Bacteriology Laboratory

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The medium as used has the following formula:

Agar	15 grams
Witte's peptone	10 grams
Dextrose	20 grams
Sodium taurocholate	3 grams
Crystal violet (0.1% aqueous solution)	2 c.c
Water	1000 c.c.

DIRECTIONS FOR PREPARATION

1. Melt 15 grams of agar in 1000 c.c. of distilled water.
2. Add 3 grams of sodium taurocholate, 10 grams of peptone and boil until well mixed.
3. Add 20 grams of dextrose and adjust to pH 7.0.
4. Add 2 c.c. of 1-1000 (aqueous) crystal violet and make up to 1000 c.c. Filter through cotton until clear.
5. Tube and sterilize in autoclave for 15 minutes at 15 pounds pressure.

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A SUBSTITUTE FOR BEERWORT AS A YEAST MEDIUM IN THE BACTERIOLOGY LABORATORY

JOHN C. WELDIN

Ordinary beerwort, the usual medium in the past for yeast culture in Bacteriology laboratories, has become increasingly difficult to obtain. The manufacture of beerwort in the laboratory is a tedious process and the product is variable and often unsatisfactory for good yeast growth.

Dehydrated Malt Extract Broth as put up by the Digestive Ferments Company of Detroit was not found to be a satisfactory substitute but when a little dipotasium phosphate and ammonium chloride were added and the reaction properly adjusted it supported good yeast growth and gave abundant gas production. A series of experiments with different concentrations of the chemicals employed and using a considerable number of yeast strains were inaugurated. From these the following formulae were derived.

A liquid medium in which yeasts produce abundant gas.

Malt extract (Difco)	15 g.
K_2HPO_4	1 g.
NH_4Cl	1 g.
Dist. H_2O	1000 c.c.

Medium adjusted with citric acid to pH 5.4-5.6.

A solid medium on which yeasts grow vigorously.

Malt extract (Difco) ..... 15 g.
K_2HPO_4 ..... 3 g.
NH_4Cl ..... 1 g.
Agar ..... 20 g.
(Amount of agar to be used, optional)
Medium adjusted with citric acid to pH 5.4-5.6.

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THE DIGESTION OF PECTIN AND METHYLATED GLUCOSES BY VARIOUS ORGANISMS

HAROLD W. COLES

3-monomethyl glucose (I), 1, 2, 3, 5-tetramethyl glucose (II), and 1, 2, 3, 5, 6-pentamethyl glucose (III) were prepared, and, together with pectin, tried out on 185 cultures including organisms isolated from the activated sludge of creamery wastes and members of the colon-typhoid group. A peptone medium was used and a synthetic medium containing no peptone and hence no carbon other than the carbon of the pectin or carbohydrates. The organisms digesting pectin and (I) with the production of acid and gas were those commonly associated with the soil. (II) and (III) were not digested by any of the organisms tried. Conclusions based upon these results were discussed.

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THE ADAPTATION AND MODIFICATION OF *RHIZOBIUM LEGUMINOSARUM* TO CERTAIN ADVERSE CONDITIONS

L. A. BURKEY

A study was made of the effects of desiccation and alkalinity on the growth of the alfalfa root nodule bacteria. A similar study was reported, on the effects of gentian violet, in a previous paper (Burke & Burkey, Soil Science, 1925). In this paper it was shown that continued exposure of the organisms to the dye resulted in more resistance, which was only temporary. Later work has shown the formation of bacteroid forms when the alfalfa organism is grown on dye agar or on medium which is very acid or extremely alkaline.