WORT AGAR TM 490

For cultivation and enumeration of yeasts

Composition

Ingredients	Gms/Ltr.
Agar	15.00
Malt extract	15.00
Maltose	12.75
Dextrin	2.75
Dipotassium phosphate	1.00
Ammonium chloride	1.00
Peptic digest of animal tissue	0.780

***** Dehydrated powder, hygroscopic in nature, store in a dry place in tightly- sealed containers 25°C and protected from direct Sunlight.

Instructions for use

Dissolve 48.30gms in 1000ml distilled water. Add 2.35gms or (1.9ml) of Glycerol. Mix well. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes. Cool to 45 - 50^{0}C and pour into sterile Petri plates.

Appearance: Light yellow to amber colour, slightly opalescent gel
pH (at 25°C): 4.8 ± 0.2

Principle

WORT AGAR is used for cultivation and enumeration of yeasts developed by Parfitt in 1933. The medium contains Malt extract and Peptone as sources of nitrogen, vitamins, amino acids for potential microorganism's growth. Maltose, Dextrin and Glycerol are the sources of carbohydrates. Dipotassium hydrogen phosphate provides buffering capability. The microorganisms other than yeasts are suppressed by the low pH 4.8 of medium. To increase the selectivity of the medium add 12ml of filter sterilized 10% lactic acid (TS 049) which makes the pH of 3.5. Agar is the solidifying agent. Addition of Glycerol reduces the water activity from 0.999 to 0.95, thereby reducing bacterial growth.

Interpretation

Cultural characteristics observed after inoculating (10^3 CFU / ml), on incubation at 30°C for 40 - 48 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
Aspergillus brasiliensis	16404	Point inoculation	Good
Saccharomyces cerevisiae	9763	10^3	Good
Saccharomyces uvarum	9080	10^3	Good
Candida albicans	10231	10^3	Good

References

1. Parfitt E. H., 1933, J. Dairy Sci., 19: 141.
2. M. Rapp, Indikatorzusätze zur Keimdifferenzierung auf Würze- und Malzextrakt-Agar, Milchwiss. 29, 341. (1974).
3. B.J. Schaertal, et al., Impedimetric detection of yeast and mold, Food Microbiol. 4, 155. (1987).