



YEM Agar

M1853

YEM Agar is widely used for the cultivation of *Agrobacterium* species and other soil microorganisms.

Composition**

Ingredients	Gms / Litre
Yeast extract	1.000
Mannitol	10.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.200
Sodium chloride	0.100
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 26.8grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour in sterile Petri plates.

Principle And Interpretation

YEM Agar is widely used for the cultivation of *Agrobacterium* species and other soil microorganisms.

Agrobacterium is a genus of Gram negative bacteria. The *Agrobacterium* genus is quite heterogenous *Agrobacterium* is well known for its ability to transfer DNA between itself and plants. *Agrobacterium tumefaciens* is a ubiquitous soil borne pathogen responsible for Crown Gall disease, affecting many higher species of plant (2). YEM Agar is also used for the cultivation of the symbiotic nitrogen fixing microorganisms like *Rhizobium* species to make it suitable for the production of legume inoculants.

YEM Agar which contains mannitol as a carbon source and yeast extract as a source of both nitrogen and growth factors for *Agrobacteria*. It also poises oxidation - reduction potential of medium in the range favourable for *Rhizobia* and serves as hydrogen donor in respiratory process (1). Mannitol is the fermentable sugar alcohol source. Magnesium provides cations essential for the growth of *Agrobacteria*.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel

Reaction

Reaction of 2.68% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for upto 5 days.

Cultural Response

Organism	Growth
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Cultural Response	
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Rhizobium leguminosarum luxuriant
ATCC 10004
Rhizobium meliloti ATCC luxuriant
9930
Agrobacterium tumefaciens luxuriant
ATCC 33970

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2- 8°C. Use before expiry date on the label.

Reference

- 1.Allen. E.K. and Allen. O.N., 1950, Bacteriol. Rev., 14:273.
- 2.Loper, J. E. and Ishimaru, C. A., in The Rhizosphere and Plant Growth (eds Keister, D. L. and Cregan, P. B.), Kluwer Academic Publishers, 1991, pp. 253–261.

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