



PE-2 Medium

M611

PE-2 Medium is used for detection and cultivation of mesophilic anaerobic spore-formers in specimens collected from food processing plants.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.000
Yeast extract	3.000
Bromocresol purple	0.040

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 23.04 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense 18-20 ml aliquots into 18 x 150 mm screw capped test tubes. Add 8-10 untreated Alaska seed peas and let the tubes stand for 1 hour to effect hydration. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

The mesophilic spore-forming anaerobes belong to the genus *Clostridium* and are widely distributed in nature. Clostridial species are highly heat resistant and are able to grow in the absence of oxygen. Clostridial growth range covers the temperature of the normal storage of canned and other processed foods including refrigerated storage of cured meats and hence these anaerobes are important in the spoilage of low-acid foods packed in hermetically sealed containers.

PE-2 Medium is prepared as per the formulation described by Folinazzo and Troy (1) and recommended by APHA (2) for detection and cultivation of mesophilic anaerobic spore-formers in specimens from food processing plants. These organisms mainly include the genus *Clostridium*.

Peptic digest of animal tissue and yeast extract provide nitrogenous compounds, vitamin B complex and trace ingredients required for the growth of clostridia. Addition of untreated alaska seed peas creates anaerobic conditions in the medium.

Prepared samples of heated sugar, dehydrated vegetables and spices are cultured by taking 20 ml portions of these heated substances and dividing equally among 6 tubes of freshly heated culture medium. Incubate the cultures at 30-35°C for 72 hours or upto 7 days if desired as some spores germinate slowly (2).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured clear to slightly opalescent solution over alaska seeds.

Cultural Response

M611: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response		
<i>Clostridium botulinum</i> ATCC 25763	50-100	good-luxuriant
<i>Clostridium sporogenes</i> ATCC 11437	50-100	good-luxuriant
<i>Cl. thermosaccharolyticum</i> ATCC 7956	50-100	good-luxuriant

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. Folinazzo J. F. and Troy V. S., 1954, Food Technol., 8:280.
2. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

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