



Dextrose Tryptone Broth w/ Yeast extract

M2130

Intended Use:

Recommended for enrichment and cultivation of mesophilic and thermophilic organisms in food.

Composition**

Ingredients	g / L
Tryptone	10.000
Yeast extract	1.000
Dextrose (Glucose)	5.000
Bromocresol purple	0.040
Final pH (at 25°C)	6.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.04 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Canned foods are most often prone to flat-sour spoilage due to contamination by either mesophilic or thermophilic aerobic spore-formers. Inadequate heat processing is commonly responsible for flat-sour spoilage since spores of mesophilic bacteria are moderately resistant to moist heat. Also *Bacillus stearothermophilus* is the typical species responsible for this type of spoilage (1,2). *Bacillus coagulans*, *Bacillus thermoacidurans*, a soil organism of canned tomato and dairy products. In flat-sour spoilage, carbohydrates are fermented with the production of lower fatty acids, which sour the product. The small amount of gas produced does not affect the flat appearance of the ends of container.

Williams (3) evolved Dextrose Tryptone Agar, a suitable medium for cultivation and enumeration of the thermophilic bacteria. It is also recommended for general cultural studies by Cameron (4) and other associations (5-9). This medium is with the exclusion of Agar.

Tryptone and yeast extract provides nitrogenous and carbonaceous compounds, long chain amino acids and vitamins nutrients to the organisms. Dextrose serves as an energy source while bromo cresol purple is a pH indicator. Acid producing organisms produce yellow coloured medium. The tubes should be incubated at 55°C for 48 hours in a humid incubator. One to two grams of test sample is inoculated into 10 ml of broth media.

Type of specimen

Food samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5,6,10). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light yellow to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured, clear solution in tubes

Reaction

Reaction of 1.6% w/v aqueous solution at 25°C. pH : 6.7±0.2

pH

6.50-6.90

Cultural Response

Cultural characteristics observed after an incubation at 54-56°C for 36-48 hours .

Organism	Inoculum (CFU)	Growth	Colour of medium
<i>Bacillus brevis</i> ATCC 8246	50-100	good-luxuriant (with or without dextrose fermentation)	yellow
<i>Bacillus coagulans</i> ATCC 8038	50-100	good-luxuriant	yellow
<i>Bacillus stearothermophilus</i> ATCC 7953	50-100	good-luxuriant	yellow

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (11,12).

Reference

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