YSG Agar M1753

**Intended Use:**
Recommended for the detection of *Alicyclobacillus* in fruit juices in accordance with Official method of IFU.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>2.000</td>
</tr>
<tr>
<td>Glucose (Dextrose)</td>
<td>1.000</td>
</tr>
<tr>
<td>Soluble starch</td>
<td>2.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>3.7±0.1</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 20.0 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

*Note: Adjust the pH of the medium to 3.7±0.1 (after sterilization) using 1N HCl.*

**Principle And Interpretation**

*Alicyclobacillus* species are gram positive aerobic thermophilic, and spore forming acidophilic bacteria. *Alicyclobacillus* are sometimes called Acidophilic Thermophilic Bacteria (ATB). These spore forming organisms are able to survive the relatively mild pasteurization temperatures used for fruit juices and drinks and some are able to grow out and cause spoilage of the beverage. Even very low numbers of *Alicyclobacillus* are able to cause spoilage and produce objectionable flavours and odours specially affecting the quality of fruit juice (1,3) and in the beverages, damaging the brand. These bacteria are able to grow at pH values as low as 2.5 and also at elevated temperatures as high as 60°C.

YSG agar is recommended for the growth of *Alicyclobacillus*. Yeast extract in the medium supplies vitamin and growth factors. Glucose serves as an energy source. Soluble starch neutralizes the medium. The low pH of the medium imparts selectivity to the medium. This medium is recommended for the count of *Alicyclobacillus* in fruit juices (2).

**Type of specimen**

Food samples: Fruit juices and drinks

**Specimen Collection and Handling**

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6). 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. Some strains may show poor growth due to nutritional variations.

**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
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Pale yellow coloured Clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 2.0% w/v aqueous solution at 25°C. pH : 3.7±0.1

pH
3.60-3.80

Cultural Response
Cultural characteristics observed after an incubation at 45-46°C for 3-5 days or 65-66°C for 2-3 days.

Organism | Growth
--- | ---
Alicyclobacillus acidocaldarius ATCC 43030 | luxuriant
Alicyclobacillus acidocaldarius ATCC 27009 | luxuriant
Alicyclobacillus acidoterrestris ATCC 49028 | luxuriant

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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. Use before expiry date on the label. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference