YSG Agar

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</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>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 20 grams 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. Cool to 45-50°C and adjust the pH to 3.7±0.1 with 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 (1,2) 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 broth is recommended for the enrichment 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 (3)

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.8% 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**

M1753: Cultural characteristics observed after an incubation at 45- 46°C for 3-5 days or 65-66°C for 2-3 days.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Alicyclobacillus acidocaldarius ATCC 27009</em></td>
<td>luxuriant</td>
</tr>
<tr>
<td><em>Alicyclobacillus acidoterrestris ATCC 49028</em></td>
<td>luxuriant</td>
</tr>
<tr>
<td><em>Alicyclobacillus acidocaldarius ATCC 43030</em></td>
<td>luxuriant</td>
</tr>
</tbody>
</table>

Please refer disclaimer Overleaf.
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