YSG Broth

M1754

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

Composition**

Ingredients	Gms / Litre
Yeast extract	2.000
Glucose	1.000
Soluble starch	2.000
Final pH (at 25°C)	3.7±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 5 grams in 1000 ml distilled water. Heat, if necessary, to dissolve the medium completely. Adjust the pH to 3.7+0.1 with 1N HCl. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Alicyclobacillus species are gram positive aerobic thermophillic, and spore forming acidophilic bacteria. *Alicyclobacillus* are sometimes called Acidophilic Thermophillic 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 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 was recommended for the preenrichment of *Alicyclobacillus* in fruit processing(3)

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Pale yellow coloured slightly opalescent solution

Reaction

Reaction of 0.5% w/v aqueous solution at 25°C. pH : 3.7±0.1

pH

3.60-3.80

Cultural Response

M1754: Cultural characteristics observed after an incubation at 60°C for 48-72 hours.

Organism	Growth Cultural Response
Alicyclobacillus acidocaldarius ATCC 27009	luxuriant
Alicyclobacillus acidoterrestris ATCC 49028	luxuriant
Alicyclobacillus acidocaldarius ATCC 43030	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.Ceny G., Hennlish W. and K Rocallia-Furchtsaftwerb ducrh Baciilen. Isobioerung and Charakteriseeuing des Verdebserregens-Z hebers Utres Forsch 179: 224-227, 1984.
2.Baungart and Merve S., The Impact of Alicyclobacillus acidoterstris on the Quality of Juices and Soft Drinks Fruit processing 7: 251-254 (2000).
3.Catharina e. Steyn, Michelle Cameron, R. Corli Witthuhn., International Journal of Food Microbiology, Vol.157, Issue1, pg. 1-11. Occurence of Alicyclobacillus in the fruit processing environment- A review.

Revision : 2 / 2015