

Technical Information

Acid MiVeg Broth

Product Code : VM2208

Application:- Acid MiVeg Broth is recommended for the cultivation of acid tolerant microorganisms from canned foods.

Composition**

Ingredients	Gms / Litre
Invert sugar	10.0
MiVeg peptone	10.0
Yeast extract	7.5
Final pH (at 25°C)	4.0± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Acid MiVeg Broth is prepared by MiVeg peptone (vegetable peptones), instead of animal based peptone thereby making the medium BSE/TSE risk free. Acid MiVeg Broth is the modification of Acid Broth cited in APHA(1) for cultivating acid tolerant microorganisms from canned foods. Bacteria such as *Bacillus coagulans*, *Lactobacillus*, *Leuconostoc* and yeasts etc. are capable of causing spoilage in acid product concentrates such as fruit pastes, tomato paste. Some aciduric like *Pediococci* and *Streptococci* which are responsible for canned food spoilage can also be cultivated in Acid MiVeg Broth. Acid MiVeg Broth is also good for the recovery of minimal contamination of canned acid food. Approximately 100 grams of the product to be tested is inoculated aseptically into 300 ml of sterile medium in 500 ml screw-cap flasks. The broth is intended primarily as a mass culture medium for detecting minimal contaminants in aseptically packed acid products. Thereafter, minimum of three flasks per sample should be inoculated. Retain extra aseptic sample from each container and incubate it with the flasks. For the microscopic comparisons, retain an additional sample at refrigeration temperature. It can also be used if the test has to be repeated. Examine the samples visually for fermentation or biological surface growth daily which are incubated at 30°C for 5 days. Incubate the extra retained samples for 10 days. Examine all the samples microscopically, at the end of incubation period for evidence of bacterial or yeast contamination. The pH is the most important factor which not only determines the degree of thermal processing of canned foods but is also an important parameter of this medium for isolating acid tolerant bacteria from canned foods.

Acid MiVeg Broth contains invert sugar which is a mixture of 50% glucose and 50% fructose produced by the hydrolysis of sucrose. It is included in the medium to prevent the loss of water from the medium and also because acid tolerant bacteria utilize it. MiVeg peptone and yeast extract provide the nitrogenous nutrients including amino acids to the microorganisms.

Methodology

Suspend 27.5 grams of dehydrated media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium. Distribute into tubes or flasks. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Light yellow coloured may have slight greenish tinge, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Light amber coloured, clear solution without any precipitate.

Reaction

Reaction of 2.75% w/v aqueous solution pH 4.0±0.2 at 25°C

pH range

3.8-4.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 30°C for 5 days

Organisms (ATCC)	Inoculum (CFU)	Growth
<i>Bacillus coagulans</i> (8038)	10 ² -10 ³	None-poor
<i>Lactobacillus acidophilus</i> (4356)	10 ² -10 ³	good-luxuriant
<i>Leuconostoc mesenteroides</i> (12291)	10 ² -10 ³	good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days

Further Reading

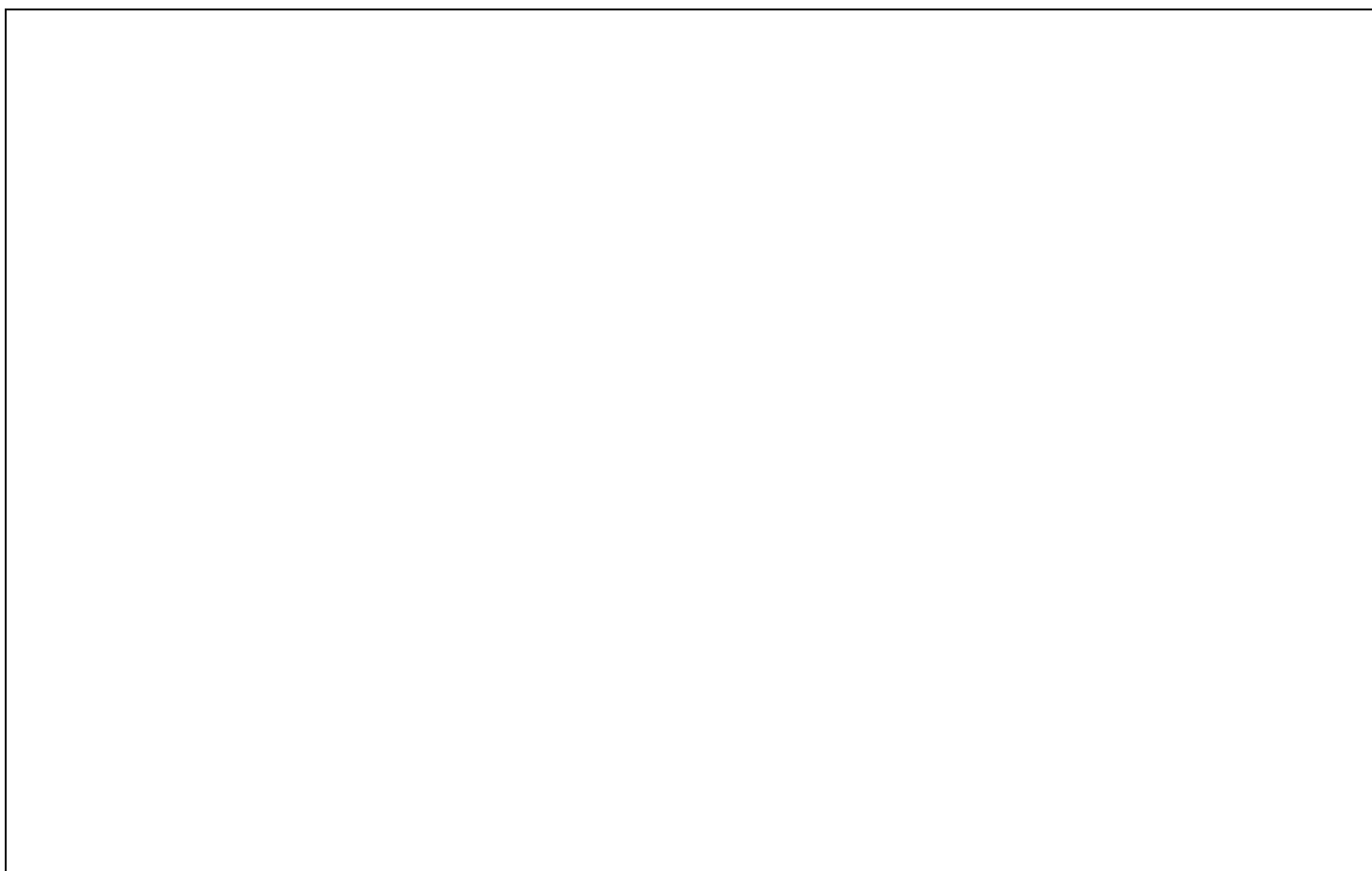
1. Vanderzant, c., Splittstoesser d f. (Eds.). 1992, Compendium of Methods For The Microbiological Examination of Foods, 3th edition, APHA, Washington, D.C.

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Dehydrated Culture Media
Bases / Media Supplements



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