

LAB147

Orange Serum Agar

Description

A medium developed for the investigation of organisms involved in the spoilage of citrus products including fruit juices and citrus concentrates. The low pH of these products restricts the growth of organisms to those capable of tolerating an acid environment such as yeasts and moulds and bacteria belonging to the genera *Bacillus, Lactobacillus, Leuconostoc, Streptococcus* and *Clostridium.* By having a low pH and incorporating orange extract, Orange Serum Agar is the ideal isolation medium.

Formulation

	g/litre
Tryptone	10.0
Yeast extract	3.0
Orange extract	5.0
Glucose	4.0
Di-potassium phosphate	3.0
Agar No.2	17.0
Grams per litre	42.0

Appearance

Powder: fine, free-flowing, homogeneous, buff Finished medium: Amber, slightly opalescent gel

pH: 5.5 ± 0.2

Hazard classification

NR – Not regulated

Method for reconstitution

Weigh 42 grams of powder and disperse in 1 litre of deionised water. Allow to soak for 10 minutes. Bring to the boil, swirling frequently. Sterilise by autoclaving for 15 minutes at 115°C. Cool to 47°C, mix well and dispense into Petri dishes.

Storage

Dehydrated culture media: 10-25°C Final medium: 7 days at 2-8°C in the dark

Inoculation

Pour plate technique.

Incubation 3 days at 30°C for bacteria, 5 days at 30°C for yeasts and moulds.

Minimum Q.C. organisms

Lactobacillus acidophilus Penicillium roquefortii



Interpretation

Count bacterial colonies and yeasts/moulds separately. Calculate the colony forming units (CFU) per ml of the sample, allowing for dilution factors.

References

Hays, G.L. (1951) The isolation, cultivation and identification of organisms which have caused spoilage in frozen concentrated orange juice. Proc. Florida State Hort. Soc.

Hays, G.L. and Reister, D.W. (1952) The control of 'off-odour' spoilage in frozen concentrated orange juice. Food Tech 6 p386.

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