Technical Data

Phyto Peptone - Sucrose Agar

PHM026

Semi selective Agar medium for detection of *Xanthomonas axonopodis* pv. *malvacearum* in naturally infected cotton seed.

Composition**

Ingredients	Gms / Litre
Peptone	5.000
Ferrous sulphate	0.500
Disodium hydrogen phosphate	2.000
Calcium nitrate	0.500
Sucrose	20.000
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 43 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. Aseptically add the rehydrated contents of one vial of PSA Supplement (PHS018). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Xanthomonas species can cause bacterial spots and blights of leaves, stems, and fruits on a wide variety of plant species (1). Pathogenic species show high degrees of specificity and some are split into multiple pathovars, a species designation based on host specificity. Angular leaf spot caused by *Xanthomonas axonopodis* pv. *malvacearum* (Xam) is one of the most important dieseases of tetraploid cotton (*Gossypium hirsutum* L. and G. *barbadense* L.) in many countries which causes heavy yield losses. Cotton seed is considered to be an important transmission vehicle of Xam and a source of primary inoculum (2). Phyto Peptone Sucrose Agar is a semi-selective Agar developed for detection of *Xanthomonas axonopodis* pv. *malvacearum* (Xam)(3).

The media contains peptone,which is carbon, nitrogen and sulphur source. Sucrose is a source of carbohydrate.Calcium nitrate serves as inorganic nitrogen source and other inorganic salts supply the necessary growth requirements.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

pH

6.60-7.00

Cultural Response

PHM026: Cultural characteristics observed after an incubation at 30-32°C for 5-6 days with added PSA supplement (PHS018).

Organism	Growth
Xanthomonas axonopodis pv. malvacearum	good

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. Boch J, Bonas U (September 2010). "XanthomonasAvrBs3 Family-Type III Effectors: Discovery and Function". Annual Review of Phytopathology 48: 419–36.
2. Brinkerhoff,L.A.& Hunter,R.E. Internally infected seed as a source of inoculum for the primary cycle of bacterial blight of cotton. Phytopathology 53:1397-1401.1963.
3. Bomfeti,C. & Bolognini,V.,Fitopatologia Brasileira 30:489-496.2005.

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