PHM020

Semi Selective medium for the detection of *Xanthomonas campestris* pv. *carotae* in carrot

**Composition**: 

**Ingredients** | **Grams/Litre**
--- | ---
Sodium dihydrogen phosphate | 0.900
Di-potassium hydrogen phosphate | 3.00
Magnesium sulphate, anhydrous | 0.15
Ammonium chloride | 1.0
Agar | 15
Final pH (at 25°C) | 6.4

**Formula adjusted standard to suit the performance parameter**

**Direction:**

Suspend 20.05 grams in 900 ml distilled water. Dissolve 10.00 gms of D-cellobiose in 100ml of distilled water. Heat to boiling to dissolve the medium completely. Sterilize both the solutions separately by autoclaving at 15 lbs pressure(121°C) for 15 minutes. Cool to 45-50 °C

**Principle and Interpretation**

Bacterial leaf blight of carrot (*Daucus carota* subsp. *sativus*), caused by *Xanthomonas campestris* pv. *carotae*, is a common problem wherever carrots are grown (1). *X. campestris* pv. *carotae* needed to give rise to bacterial blight in sprinkler-irrigated carrots (2). Once established, this disease is difficult to manage. Yet, disease prevention also is difficult because *X campestris* pv. *carotae* is seedborne and hot water seed treatments may not entirely eradicate the pathogen. To monitor populations of *X. campestris* pv. *carotae* on plants, this media has developed.

This medium is formulated as per the formulation of MD5A by Cubeta and Kuan, 1986 (3). Phyto XcCar Agar Base is semi selective medium for the detection of *Xanthomonas campestris* pv. *carotae* in carrot. Medium contains all inorganic components, out of which phosphates present in the medium serve as buffers. Ammonium chloride and magnesium sulphate are trace element, provides nutritional value to organisms.

**Quality Control**:

**Appearance of Powder**:
White to cream coloured, homogeneous, free flowing powder.

**Gelling**
Firm, comparable with 1.5% Agar gel.

**Colour and Clarity of prepared medium**
White to cream coloured, opalescent gel with precipitate forms in Petri plates.

Please refer disclaimer Overleaf.
**Reaction:**
Reaction of 2.01% w/v aqueous solution is pH 6.4 ± 0.2 at 25°C.

**Cultural Response:**
Cultural characteristics observed after an incubation at 25-30°C for 5-6 days.

<table>
<thead>
<tr>
<th>Organism (ATCC)</th>
<th>Growth</th>
<th>Colour of the Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Xanthomonas campesris</em> pv. <em>carota</em></td>
<td>Luxuriant</td>
<td>Straw yellow, glistening, round, smooth, convex and 2-3mm in diameter.</td>
</tr>
<tr>
<td><em>Escherichia coli</em> (25922)</td>
<td>Inhibited</td>
<td>-</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> (25923)</td>
<td>Inhibited</td>
<td>-</td>
</tr>
<tr>
<td><em>Saccharomyces cerevisiae</em> (9763)</td>
<td>Inhibited</td>
<td>-</td>
</tr>
</tbody>
</table>

**References:**

**Storage and Shelf-life :**
Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.