Semi-selective medium for the detection of *Clavibacter michiganensis* subsp. *michiganensis* on seeds of tomato.

**Composition**:  

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Grams/Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium dihydrogen phosphate</td>
<td>0.50</td>
</tr>
<tr>
<td>Di-potassium hydrogen phosphate</td>
<td>2.00</td>
</tr>
<tr>
<td>Magnesium sulphate anhydrous</td>
<td>0.122</td>
</tr>
<tr>
<td>Boric acid</td>
<td>1.50</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>0.10</td>
</tr>
<tr>
<td>Sucrose</td>
<td>10.00</td>
</tr>
<tr>
<td>Agar</td>
<td>18.00</td>
</tr>
</tbody>
</table>

Final pH (at 25°C) 7.3  

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

**Direction**:  

Suspend 32.2 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize the medium by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50 °C and aseptically add the rehydrated contents of one vial of CNNP supplement (PHS004). Mix well and pour into sterile Petri plates.

**Principle and Interpretation**:  

Bacterial canker is a serious and destructive disease caused by *Clavibacter michiganensis* subsp. *michiganensis* in tomatoes and is of major concern due to the great losses to the tomato growing countries (1) Symptomatic plants showed reddish brown cavities in the stem, discoloration, and water soaking of vascular tissue. Diseased tissues were washed with phosphate buffer and placed on semiselective *Clavibacter* medium (2),  

Yeast extract serves as a nitrogenous source. Boric acid helps in the selectivity of the medium. Phosphates in the medium help in buffering of the medium. Sucrose serves as a carbohydrate source.

Please refer disclaimer Overleaf.
PHM005                                                                 Phyto Cmm  Agar Base

Quality Control :
Appearance:
Light yellow coloured, homogeneous, free flowing powder.
Gelling :
Firm, comparable with 1.8% Agar gel.
Colour and Clarity of prepared medium:
Yellow coloured, opalescent gel forms in Petri plates
Reaction
Reaction of 3.22% w/v aqueous solution is pH 7.3 at 25°C

Cultural Response:
Cultural characteristics observed with added CNNP supplement (PHS004), after an incubation at 30-32°C for 5-6 days.

Organism (ATCC)    Growth            Colony characteristics

Clavibacter michiganesis    luxuriant            small, light to dark grey
subsp michiganesis          inhibited            glistening, (often irregularly shaped)
Escherichia coli (25922)    inhibited            -

References:

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

Disclaimer :
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.