PHM007 **Phyto Peptone Bromide Agar Base**

Semi selective medium for the detection of *Xanthomonas hortorum* pv. *carotae* in carrot.

Composition **:

Ingredients	**Grams/Litre**
Peptone	10.0
Boric acid	0.3
Potassium bromide	10.0
Agar	15.0
Final pH (at 25°C)	7.4

**Formula adjusted standard to suit the performance parameter.

Direction :

Suspend 35.3 grams in 900 ml distilled water containing 10 ml of Tween 80. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121) for 15 minutes. Dissolve 10.0 grams of skim milk powder in 100 ml of distilled water. Sterilize by autoclaving at 15 lbs pressure (121) for 5 minutes. Mix Part A and Part B, cool to 45-50 C.and aseptically add the rehydrated content of one vial of CNF supplement (PHS006). Mix well and pour into Petri plates.

Principle and Interpretation :

Bacterial leaf blight of carrot (*Daucus carota* subsp. *sativus*) caused by *Xanthomonas hortorum* pv. *carotae* (also known as *Xanthomonas campestris* pv. *carotae)* is an important seed-borne disease found worldwide. Under conditions favourable to the bacteria this disease can cause significant yield losses. Contaminated carrot seeds are a potential primary source of inoculum and the use of *X.hortorum* pv. *carotae*-free seed is an important disease management strategy. Therefore, sensitive detection methods suitable for routine application are needed by many agricultural industries (1).

This medium is based on the formulation of mTBM Medium as suggested by McGuire *et.al* 1986 (2) and serves as a semi-selective medium for the growth of *X. hortorum* pv. *carotae* . Peptone provides the necessary nitrogen compounds, carbon vitamins and also some trace elements necessary for the growth of plant pathogen. Boric acid serves as a selective agent. . Nystatin inhibits anti-fungal agent.

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Quality Control :
Appearance of Powder:
Cream to yellow coloured, homogeneous, free flowing powder.
Gelling
Firm, comparable with 1.5% Agar gel.
Colour and Clarity of prepared medium
Yellow coloured, opalescent gel forms in Petri plates
Reaction:
Reaction of 3.53 % w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

Cultural Response:

Cultural characteristics observed with added CNF Supplement (PHS006), after an incubation at 25-30°C for 5-7 days

Organism (ATCC)	Growth	Colony Characteristics
Xanthomonas hortorum pv. *carotae*	Luxuriant	White / Yellow / White yellow, glistening round, convex with entire margins and surrounded by a clear zone of casein hydrolysis
Escherichia coli (25922)	Inhibited	-
Staphylococcus aureus (25923)	Inhibited	-
Saccharomyces cerevisiae (9763)	Inhibited	-

References:

1. Meijerink, G.A.A.M. and van Breukelen, E.W.M. (1995). International initiative standardizes test protocols. *Prophyta annual* **49**, pp. 58-65.
2. McGuire,R.G., Jones,J.B. and Sasser, M.1986. Tween media for semiselective isolation of Xanthomonas campestris pv vesicatoria from soil and plant material. *Plant Dis*. 70:887-891.

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

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Disclaimer :

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