Orchid Maintenance/ Replate Medium
With Calcium Chloride, Vitamins, Sucrose, Banana powder, HiVeg™ peptone,
MES, Activated Charcoal and Agar

Product Code: PT074

Product Description:
Orchid Maintenance Medium has been formulated for the effective maintenance of the orchid species.

It is a nutrient blend of inorganic salts, vitamins and carbohydrates. In addition, it is supplemented with MES buffer which maintains optimum buffering and prevents acidification in the media required for the propagation of orchids. HiVeg™ peptone is added as an additional source of reduced organic nitrogen. Microelements like Boron, Manganese, Molybdenum, Copper, Iron and Zinc enhance metabolism in plants. Boron plays a key role in carbohydrate metabolism. Thiamine, pyridoxine, nicotinic acid act as enzymatic cofactors in universal pathways including glycolysis and TCA cycle and in primary and secondary metabolism in the plants. Activated charcoal adsorbs the inhibitory leachouts in the medium while banana powder aids in organogenesis as well as promotes the growth of protocorm like bodies.

The product is plant tissue culture tested but it is the sole responsibility of the user to ensure the suitability of the medium for individual species.

Composition:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACROELEMENTS</td>
<td></td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>825.000</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>166.100</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>90.340</td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>950.000</td>
</tr>
<tr>
<td>Potassium phosphate monobasic</td>
<td>85.000</td>
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<tr>
<td>MICROELEMENTS</td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td>3.100</td>
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<tr>
<td>Cobalt chloride hexahydrate</td>
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<tr>
<td>Copper sulphate pentahydrate</td>
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<tr>
<td>EDTA disodium salt dihydrate</td>
<td>37.300</td>
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<tr>
<td>Ferrous sulphate heptahydrate</td>
<td>27.800</td>
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<tr>
<td>Manganese sulphate monohydrate</td>
<td>8.450</td>
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<tr>
<td>Molybdic acid (sodium salt)</td>
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</tr>
<tr>
<td>Potassium iodide</td>
<td>0.420</td>
</tr>
<tr>
<td>Zinc sulphate heptahydrate</td>
<td>5.300</td>
</tr>
</tbody>
</table>

VITAMINS
- myo-Inositol 100.000
- Nicotinic acid (free acid) 1.000
- Pyridoxine HCl 1.000
- Thiamine hydrochloride 10.000

CARBOHYDRATE
- Sucrose 20000.000

GELLING AGENT
- Agar 7000.000

OTHERS
- Activated charcoal 2000.000
- Banana Powder 30000.000
- HiVeg™ Peptone 2000.000
- MES 1000.000

Total(gms/litre) 64.3

Material required but not provided:
- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl

Precautions:
- Ensure appropriate pH of the medium before addition of gelling agent as acidic pH will lead to decreased gelation resulting in semi solid flowing gel while alkaline pH will lead to formation of hardened gel.
- Use of Distilled water / Tissue culture grade water is recommended for media preparation as tap water or lower grade water may lead to salt precipitation and improper gelation.
- Avoid preparation of concentrated solutions, as it will lead to precipitation of salts.

Directions:
- Reconstitute medium by adding required quantity of powder in two-third of total volume with constant, gentle stirring till the medium gets completely dissolved.
- Add heat stable supplements prior to autoclaving.
- Make up the final volume with distilled water.
- Adjust the pH of the medium to 5.75 ± 0.5 using 1N NaOH/HCl.

Please refer disclaimer overleaf
• Heat the medium to boiling till complete dissolution of gelling agent.
• Sterilize the medium by autoclaving at 15 lbs and 121°C for 15 min.
• Cool the autoclaved medium to about 45°C before adding heat labile supplements.
• Aseptically dispense the desired amount of medium under a laminar airflow unit in sterile culture vessels.

Quality Control:

Appearance
Grey to black, homogenous, free flowing powder

Solubility
64.3 gms/litre soluble after boiling in distilled water

Colour and Clarity
Grey to black solution, opaque gel is formed on cooling

Gelling
Firm gel formed at pH : 5.75 ± 0.5

pH at 25°C
3.80 - 4.80

Plant Tissue Culture Test
The growth promoting properties of medium is assessed by providing plant cultures with relative humidity of about 60%±2%, temperature 22°C±2°C and photoperiod of about 16:8. The plant species showed actively growing callus and shoots with no structural, necrotic and toxic deformity.

Storage and Shelf Life:

• The plant tissue culture medium powder is extremely hygroscopic and must be stored at 2-8°C in air tight containers.
• Preferably, entire content of each package should be used immediately after opening.
• Use before the expiry date.

Revision : 01 / 2017