Hoagland No.2 Basal Salt Mixture w/o Nitrogen

TS1117

Composition :

Ingredients	milligrams/litre
Potassium phosphate monobasic	136.03
Potassium chloride	372.70
Calcium chloride.$2H_2O$	554.90
Magnesium sulphate	240.33
Manganese chloride.$4H_2O$	1.81
Boric acid	2.86
Molybdic acid (sodium salt).$2H_2O$	0.025
Copper chloride	0.045
Zinc chloride	0.11
EDTA ferric monosodium salt	33.00
TOTAL gm/litre	**1.341**

Directions :

Suspend 1.34 grams of basal salt mixture in 600 ml of distilled water and apply constant gentle stirring to the solution till the powder dissolves completely. If desired add heat stable supplements prior to autoclaving. pH is to be adjusted with 1N HCl/NaOH as desired. Make up the final volume to 1000 ml with distilled water. Sterilize the medium by autoclaving at 15 lbs or 121ºC for 15 minutes. Cool the medium to 45ºC before adding the filter sterilized heat labile supplements. Dispense the desired amount of medium aseptically in sterile culture vessels.

Principle and Interpretation :

Hoagland No.2 basal salt mixture has been specially formulated for water culture method for growing plants. The mixture contains macroelements, microelements and iron source. This mixture is devoid of nitrogen source.

Quality Control :

Appearance	: White to off-white, homogeneous, free flowing powder.
Solubility	: 1.34gm/litre soluble in distilled water.
Colour and Clarity	: Colourless to light yellow, clear solution.
pH at 25°C	: 4.3 ±0.5 of 0.134% w/v dehydrated basal salt mixture.

Cultural Response :

Cultural condition :

- · Incubation period : 5 weeks
- · Relative humidity : 60% ± 2%
- · Temperature : 22°C ± 2°C
- · Photoperiod (D:N) in hours : 16:8

Cell Line	Type of Culture	Results
Musa species	Shoot culture	No structural deformity observed No necrotic tissues, Actively growing shoots, No toxicity to shoots
Daucus species	Callus culture	No necrotic tissues, Actively growing callus, No toxicity to callus

[The medium is prepared as per direction. The growth promoting activity of this basal salt mixture is evaluated using two plant species viz. *Musa* species and *Daucus* species through three passages. Plant growth hormones (e.g. 2,4-D, NAA, Kinetin and 6-BAP) are added in suitable combinations and concentrations.]

Storage and shelf life :

Hoagland No.2 basal salt mixture powder is extremely hygroscopic and should be protected from atmospheric moisture. If possible, the entire content of each bottle should be used immediately after opening or else the unused portion should be stored in a desiccator and refrigerated at 2-8°C. Use before the expiry date.

Reference :

1. Hoagland D.R. & Arnon D.I., California Agr. Exp. Stat Circular, (1950), 347, 1 - 32