Technical Information

Asparagine Gelatin Lactate Medium Base

Product Code: DM 1725

Application: - Asparagine Gelatin Lactate Medium is used for the isolation of sulphur bacteria.

Composition**

Ingredients	Gms / Litre
Asparagine	1.000
Dipotassium phosphate	0.500
Magnesium sulphate	1.000
Ferric ammonium sulphate	0.001
Gelatin	150.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The soil sulphur is mainly present in the organic form which is metabolized by soil microorganisms to make it available in an inorganic state for plant nutrition. The conversion of organically bound sulphur to the inorganic state is termed as mineralization of sulphur and is mediated through microorganisms Sulphur in organic state is in the form of sulphur containing amino acids (cystine and methionine) and B-vitamins proteins of vegetable and animal origin and in the protoplasm of microorganisms. The sulphur thus released is either absorbed by plants or escapes to the atmosphere in the form of oxides. In the absence of oxygen, certain microorganisms produce hydrogen sulphide from organic sulphur substrates especially in water logged soils. Sulphur bacteria or sulphate reducing bacteria comprise several groups of bacteria that use inorganic sulphate as an oxidizing agent and reduce it to hydrogen sulphide. This may diminish the availability of sulphur for plant nutrition and thus influence agricultural production. *Desulfovibrio* species belonging to this class of bacteria is an obligate anaerobe, capable of producing hydrogen sulphide at a rapid rate. Asparagine Gelatin Lactate Medium is used for the isolation of sulphur bacteria [(1)].

Asparagine is the nitrogen source and is readily available for microbial energy and growth while the salts in medium help for growth of

Methodology

Suspend 152.5 grams of powder media in 1000 ml warm distilled water. Add 5 grams of sodium lactate. Shake well and heat to boiling to dissolve the medium completely. Dispense in flasks or tubes, sterilize by autoclaving at 115°C for 15 minutes.

Quality Control

Physical Appearance
Off-white to yellow homogeneous free flowing powder

Gelling
Semisolid, comparable with 15.0% Gelatin gel

Colour and Clarity of prepared medium
Yellow coloured clear to slightly opalescent gel forms in tube as butt

pH range 6.80-7.20

Reaction
Reaction of 15.22% w/v aqueous at 25°C. pH : 7.0±0.2

Cultural Response/Characteristics

DM1725: Cultural characteristics observed after an incubation at 30°C for 7 days.

Organism	Inoculum (CFU)	Growth
Desulfovibrio desulfuri cans ATCC 13541	50-100	good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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