

CM 20189 – AZOSPIRILLUM MEDIUM W/O AGAR (DOUBLE PACK)

INTENDED USE

For cultivation of Azospirillum species.

PRODUCT SUMMARY AND EXPLANATION

Azospirilla are generally gram-negative rods which are motile by means of a single flagellum. Azospirilla are also capable of fixing nitrogen. The cells of Azospirillum remain in association with the roots and fix part of the atmospheric nitrogen. Azospirillum species may be isolated from rhizosphere biofilms associated with the roots of various grasses, cereals, and tuber plants. Their isolation is based on the fact that these organisms can grow in concentrations of nitrogen too low to support growth of most microorganisms. Azospirillum cultures are useful for the cereals and cash crops viz. wheat, paddy, bajra, jowar, maize, mustard, cotton, cumin, banana, sugarcane, tobacco, castor, vegetables etc., as well as horticultural crops. Both in greenhouse and in field trials, several strains of Azospirillum have been shown to exert beneficial effects on plant growth and crop yields, under various soil and climatic conditions, and are thus qualified as Plant Growth-Promoting Rhizobacteria.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
Malic acid	5.000
Dipotassium phosphate	0.500
Ferrous sulphate	0.500
Manganese sulphate	0.010
Magnesium sulphate	0.200
Sodium chloride	0.100
Bromo thymol blue	0.002
Sodium molybdate	0.002
Calcium chloride	0.020
Part II	
Potassium hydroxide	4.000

PRINCIPLE

This medium contains malic acid which serves as the prime carbon source. Azospirillum species grow well in presence of malic acid and are not overgrown by other nitrogen fixers. Dipotassium phosphate provides buffering effect. Necessary trace elements like ferrous sulphate, manganese sulphate, sodium molybdate supports growth of Azospirillum species. Divalent salts like calcium and magnesium helps metabolism of cells. Sodium chloride helps to maintain osmotic balance of cell.

INSTRUCTION FOR USE

Dissolve 6.33 grams in 950 ml distilled water. Heat if necessary to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Cool to room temperature and slowly add 50 ml of sterile Part B prepared by adding 1.30 grams -1.50 grams of Potassium hydroxide to 50 ml of sterile distilled water.



QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Part I: Cream to yellow homogeneous free flowing powder Part II :White to cream pellets
Appearance of prepared medium	: Light yellow coloured clear to slightly opalescent solution.
pH (at 25°C)	: 6.8±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Azospirillum brasilense	29710	50-100	Luxuriant	25-30°C	Upto 8 days

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Bergey's Manual of Systematic Bacteriology (1984), Vol. 1, Pg. 100-103. Kreig NR and Holt JG (eds.), Williams and Wilkins, London.
2. Genoscope, 15 Jan 2008.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For Lab Use Only

