

Semester-I

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Subject Botany

Course - Major-I

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Question: Give general account of Mycoplasma

Answer:- Mycoplasma

mycoplasma is also known as Pleuro-pneumonia like organism [PPLO]. It

is discovered by Noeard and Roux (1898).

It was first isolated from bovine sheep suffering from pleuropneumonia.

The human infertility and abortions are now known to be due to mycoplasma

infections of the urogenital tract. Many plant diseases e.g: Aster yellow, potato witches broom and dwarf disease of mulberry are due to mycoplasma.

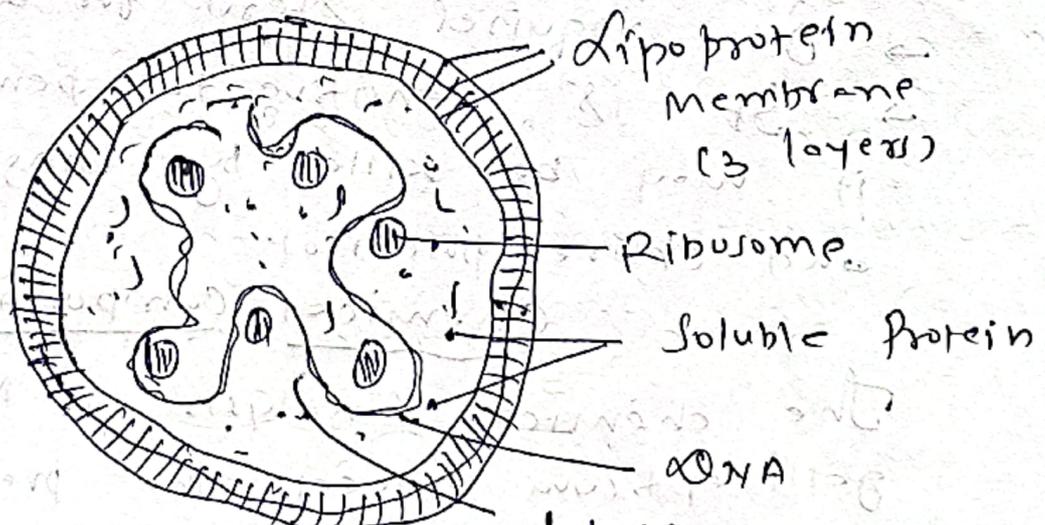


Figure - Mycoplasma - showing structural details.

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In 1966, International committee of Nomenclature of bacteria, recognized Mycoplasma, as different from Bacteria and placed it under a separate class. Mollucetes which consists of two genera - Mycoplasma and Acholeplasma.

Characteristics of Mycoplasma

- Mycoplasma lack cell wall and so have no shape (pleomorphic); hence it is called "Joker in the Microbiological Pack".
- A three layered plasma membrane is present as outer covering.
- It passes through bacteria-proof filter so it the smallest free living gram negative cells (0.125 - 0.150 μ diameter)
- It grows on culture media and form colonies with dense central portion giving "fried eggs" appearance.
- It requires sterol for growth.
- It is sensitive to penicillin. However it may be killed by using tetracycline and chloramphenicol.

Chemical composition of Mycoplasma

The chemical analysis of Mycoplasma gallisepticum reveals the presence of DNA (47) and RNA (187) in a non-aqueous substance of the cell. DNA is double stranded. Ribosomes are present.