Isolation & Identification of cynobacteria from paddy field of Lakhanpur Distt. Surguja (c.g.).

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ABSTRACT :-

Cynobacteria are a remarkable group of photosynthetic prokaryotes .It suruives in wide range habitat in soil & also morphologically various from unicellular to filamentous thail.

A study was carried out to identify and isolated cynobacteria species found to be soil sample in paddy field. The soil sample were collected from five different paddy fields. cynobacteria identify the paddy soil.

The cultures were incubated in nutrient agar media was successfully isolated the study also foundthat different morphology namely unicellular, colonial & filamentous required different cell isolation protocol & medium composition.

Keywords:- cynobacteria, isolation, Nutrient Agar media, paddy soil.

Introduction :-

Cyanobacteria are aquatic and photosynthetic that is, they live in the water, and can manufacture their own food. Because they are bacteria, they are quite small and usually unicellular, though they often grow in colonies large enough to see. They have the distinction of being the oldet khown fossils, more then 3.5 billi on years old in fact! It may surprise you then to know that the cyanobacteria are still around; they are one of the largest and most important groups of bacteria on earth.

Many proterozoic oil deposits are attributed to the activity of cyanobacteria. They are also important providers of nitrogen fertilizer in the cultivation of rice and beans. The cyanobacteria have also been tremendously important in shaping the course of evolution and ecological change throughout earth's history. The oxygen atmosphere that we depend on was gener ated by numerous cyanobacteria during the Archaean and Proterozoic Eras. Before that time, the atmosphere had a very different chemistry, unsuitable for life as we know it today.

Material & Methods :-

Sample collection :-

soil sample were collected one districts five location namely vill. – kunwarpur, vill. - kewra, vill. – Rajpuri, vill. – Bharatpur road, vill.- gorta Lakhanpur Districts surguja (c.g.) India.

Media prepration :-

Ingredients of Original medium for Nutrient agar media were added accoridinly into 50 ml conical flask & mixed well. The mixed solution was then auto claved solution was then poured into sterile petri dish & allowed to cool room temperature parafilm was used to seal the petridish to avoid.

Inoculation :- **In inoculation method collected soil samples to inoculate the poured media & incubation to room temperature with tube light**.

Observation :-

Microscopic Observation:-

- **Take a clean slide.**
- **Slide sterile to sprit.**
- **Observed colony take to forcep on the slide.**
- **Coved to slied with cover slip.**
- **Then microscope used to observation.**
- **Then see the cynobacteria species in microsope.**
- **Five different types of cynobacteria species observed.**

Result & Disscusion :-

The naked eye.bacterial growth can be measured by simple observation of how many colonies are present; however, more quantitative methods include the use of a counting chamber, or more often, viable plate counts. The latter is used most frequently as it also provides qualitative information such as the effect of varying growth conditions. Since there might be billions of bacteria in a petri dish, measuring first reauires diluting the sample so that it is possible to count the number of colonies. In a test tube, add 10 microliters of the starting bacterial culture to 90 microliters of dilution medium. Shut the lid of the tube tightly and vortex the sample is one tenth of its original concentration.

Transfer 10 microliters of this new sample to a new test tube containing 90 microliters of dilution medium, mix it again. Once again.the result will be the sample further diluted- now it will be one hundredth of its original concentration. Repeat this several times, until the original sample has been diluted between 10 and 10 times. Ensure each tube is labelled with the correct dilution, for example 10, 10 and so on.

Dispense 10 microliters of the last dilution completed onto the agar plate using the spreading edge,distribute the bacterial solution across the entire surface of the agar plate. Repeat this for two more plates. It is also common to perform these steps with other levels of dilution for comparison. Make sure to label the bottoms of the plates. Replace the lids on each plate and let the agar plates dry for several minutes either on a laboratory bench beneath a flame, or in an incubator. Place the plates in the incubator which should be set to the appropriate temperature for the strain of bacteria. leave to grow for 12 to 16 hours.

Colohies should be visible after 16 hours, however, some genetic modifications may require longer (for example, color development). When colonies are observable, take the plates out and find once that have between 30 and 300 colonies. Using a permanent marker, place a dot on the bottom of the petri dish- the side with the agar, not the lid- wherever a colony is visible through the agar. Count each marker dot. Repeat for dish.

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