**Azolla**

Azolla is an aquatic heterosporous fern which contain an endophytic cyanobacteria, *Anabaena azolla,* in its leaf cavity. The significance of Azolla as biofertilizer in rice field. A total of six species of Azolla are known – *A. caroliniana, A. filiculoides, A. Mexicana., A. micophylla, A. nilotica, A. pinnata*  and *A. rubra.* Out of these *A. pinnata* is commonly used in India.

**Azolla isolation and identification-**

The fern fronds were surface sterilized with mercuric chloride (0.1%) and 70% alcohol followed by washing several times with distilled water. The leaves were gently crushed in Allen and Arnon's (1955) medium supplemented with 0.02 M KNO3 and the supernatant containing algal filaments was filtered through a cheese-cloth. The filtrate thus obtained was inoculated in the above mentioned medium. All cultures were illuminated continuously with day light fluorescent tubes (20001ux) at 25+2°C The cultures were observed for akinete development after staining with ruthenium red and alcin blueCyanophycin granules were stained and observed by using neutral red

**Mass cultivation of Azolla-**

* Microplots (20m2) are prepared in nurseries in which sufficient water (5-10 cm) is added.
* For the good growth of Azolla, 4-20 Kg P2O2 (Diphosphorous dioxide) per hectare is amended.
* Optimum pH 8.0 and temperature 14-30°C should be maintained.
* Finally, microplots are inoculated with fresh Azolla.
* An insecticide furadon is used to check the attck of insects.
* After three weeks of growth mat formed by azolla is harvested and the same microplot is inoculated with fresh *Azolla* to repeat the cultivation.
* Azolla mat is harvested and dried to use as an green manure.

**Field application of Azolla**

There are two methods for its application in the field:

1. Incorporation of Azolla in soil prior to rice plantation
2. Transplantation of rice followed by water draining and incorporation of azolla.

**Crop response**

 Growing of Azolla in rice field before rice transplantation increased yield equivalent to that obtained from 30 Kg N/ha as urea or ammonium phosphate.

Moreover, Azolla shows tolerance against heavy metals. Therefore, heavy metal resistant species such as *A. pinnata* can also be incorporated as green manure in rice field near polluted area where heavy metal concentration is between 0.01 and 1.5 mg/litre.