

AZOLLA UNIT

Azolla unit has been established with different models for the propagation of Azolla as a fodder among the farming communities in and around this station.



Azolla (*Azolla* sp.) is an aquatic fern consisting of a short, branched, floating stem, bearing roots which hang down in the water. The leaves are alternately arranged, each consisting of thick aerial dorsal lobe containing green chlorophyll and a slightly larger thin, colourless, floating ventral lobe. Plant diameter ranges from 1.0 to 2.5 cm for small species such as *Azolla pinnata* and 15 cm or more for *Azolla nilotica*. Azolla plants are triangular or polygonal in shape, and float on the surface of the water, individually or in mats. The most remarkable characteristic of azolla is its symbiotic relationship with the nitrogen-fixing blue-green alga (cyanobacterium) *Anabaena azollae*. The fern provides nutrients and a protective cavity in each leaf to *Anabaena* colonies in exchange for fixed atmospheric nitrogen and possibly other growth-promoting substances.

Water is the fundamental requirement for the growth and multiplication of Azolla as the plant is extremely sensitive to lack of water. Although Azolla can grow on wet mud surfaces or wet pit litters, it prefers a free-floating state. Azolla grows best in full to partial shade (25 to 50 per cent of full sunlight). Growth decreases quickly under heavy shade (lower than 1500 lux) and more than 50 per cent of full sunlight reduces photosynthesis. The optimum relative humidity for azolla growth is between 85 and 90 per cent. Azolla becomes dry and fragile at a relative humidity lower than 60 per cent. Successful cultivation of azolla requires the application of a certain amount of phosphorus fertilizer (0.5 to 1.0 kg P/ha/week).

Three different azolla units have been established for demonstration and also for utilization as a feed for the animals maintained in this station. Azolla seeds have been supplied to the farmers for establishment in their premises.

The different azolla cultivation methods followed at Mecheri Sheep Research Station, Pottaneri are as follows:



Azolla cultivation in tarpauli bags



Azolla cultivation in small tank



**Azolla cultivation
in silpaulin sheet**