Prime Scholars Library

Advances in fishery, aquaculture and hydrobiology

Vol. 10 (1), pp. 08 , March, 2022

Opinion

Available online at
https://primescholarslibrary.org/

Assessment in management of tissue culture in plants

Dominique Langin and Mohammad Dominique *

Department of Animal science, Sichuan Agricultural University of Veterinary Medicine in china.

DESCRIPTION

Most aquatic plants live in shallow water or the coastal areas of lakes and streams. The aquatic plants that grow along the lake shore both protect and nourish the lake ecosystem. From a human perspective, aquatic plants are often viewed as obstacles to human recovery, but many also recognize the importance of macrophytes to healthy lakes. Aquatic plant communities are important habitats and nurseries for fish, sources of oxygen for all organisms, feeding grounds for predators as well as refuges for prey, and erosion and erosion caused by waves and coastal encroachments. It is also a buffer against sediment resuspension. Aquatic plants require special adaptations to live in or on water. The most common adaptation is the presence of light internal packaging cells, aerenchyma, but floating leaves and finely dissected leaves are also common. Aquatic plants can grow only in water or in soil that is often saturated with water. They are therefore a common component of wetlands. One of the world's largest aquatic plants is the Amazon water lily. One of the smallest is duckweed. Many small aquatic animals use plants such as duckweed as homes or to protect themselves from predators. Other well-known examples of aquatic plants are floating hearts, water lilies, lotuses, and water hyacinths. Fully submerged aquatic plants have little need for stiff or woody tissue as they are able to maintain their position in the water using buoyancy typically from gas filled lacunaa or turgid Aerenchyma cells. When removed from the water, such plants are typically limp and loose turgor rapidly.

CONCLUSION

River dwellers need well-structured wood to avoid damage from fast-moving water. They also need strong attachment mechanisms to avoid being uprooted by river currents. Many fully submerged plants have well manicured leaves, presumably to reduce river drag and provide much more surface area for mineral and gas exchange. Some plant species such as Ranunculus Aquatyris has two different leaf shapes: one with finely-cut leaves completely submerged in water, and the other with whole leaves above water. Some

aquatic plants still change their position in the water column at different times of the year. A notable example is the sea soldier, which remains at the bottom of a body of water as a rootless rosette, but slowly rises to the surface in late spring, allowing the inflorescence to rise into the air. It then forms roots and vegetative daughter plants via the rhizome. Once flowering is complete, the plant sinks through the water column and the roots die off. In swimming aquatic angiosperms, leaves evolved to have only stomata in the upper part to utilize atmospheric carbon dioxide. Gas exchange takes place mainly in the upper part of the leaf due to the position of the stomata, which are always open. Due to the aquatic environment, the plants do not risk losing water through their stomata and therefore dehydration. For carbon fixation, some aquatic angiosperms can absorb CO2 from bicarbonates in water. This is a property not found in terrestrial plants. Angiosperms using HCO 3- can maintain sufficient CO2 levels even in a basic low-carbon environment. Aquatic plants are a natural part of any lake ecosystem and serve many purposes in lakes. Plant functions include: Producing leaves and stems that fuel the food web - they are a valuable food source. Oxygen production through photosynthesis - Enriching water with oxygen through plant processes. Provides underwater shelter for fish, amphibians, birds, insects and many other creatures. These organisms break down contaminated nutrients and chemicals and are an important food source for organisms further up the food chain. Neophyte decomposes wave energy and reduces shoreline erosion, while rooted, submerged vegetation stabilizes the bottom sediment, reducing turbidity and nutrient cycling that can lead to algal blooms