

Disadvantages of plants living on land

[Science](#), [Biology](#)



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Discuss the advantages and disadvantages for plants of living in an aqueous environment compared to a terrestrial one?

Introduction:

Plants are commonly classified to two main types: aquatic plant and land plant. They have different features to adapt the living environment. What by meant is that they require different adaptations to stay alive in their respective environment such as humidity and structure of leaves. Aquatic plants referred to as hydrophytes or macrophytes.

They need a special adaptation to live in water or at water surfaces and the most common adaptation is aerenchyma. Land plants like the name mentioned is plants that live primarily in terrestrial habitats. As they are living in different environment, there are advantages and disadvantages for living in a terrestrial environment as well as aquatic one. Photosynthesis in Aquatic Plants and Land Plants Process of producing food with light energy remains the same for both aquatic and terrestrial plants. They both require the same raw materials – carbon dioxide and water to synthesis glucose.

Terrestrial plants can absorb carbon dioxide from atmospheric air and water from the soil through their roots. Obviously land plants can work through photosynthesis easily without any special adaptations. But terrestrial plants need to face a problem of abundance of water.

Abundance of water:

One of the three requirements of photosynthesis – water is in a sufficient amount for aquatic plants as they are submerged in water. Therefore it is easy to retain water from the surrounding for them. So the major challenge of aquatic plants is to obtain carbon dioxide and light.

While terrestrial plants are mostly challenged on how to prevent water loss from evaporation and desiccation due to weather or a low humidity environment. Hence, cuticles on the upper surface of epidermis to prevent water loss are more likely to appear in terrestrial plants. Another way to deal with desiccation for land plants is to evolve roots to reach water sources deep in the ground and work as transporting vesicles.

Gas Exchange:

Both types of plants have each developed unique features to work for gas exchange as availability of carbon dioxide is different in two environments. In order for land plants to access carbon dioxide in air, they must open the pores in their leaves without allowing too much water loss. So apart from cuticles, special pores called stomata located on the underside of the leaves will be closed when desiccation occurs. To deal with low availability of carbon dioxide in water, aquatic plants have special gas chambers to store carbon dioxide for use during time of storage. As a result, terrestrial plants may take a geographical advantage.

Absorption of Nutrient:

Terrestrial plants absorb water and other elements from soil by evolving roots to reach deep down to the ground. Comparing with aquatic plants, it is more difficult for terrestrial plants to absorb nutrients as in liquid medium,

nutrients can be found everywhere easily, and aquatic plants can absorb them directly through the leaf surface. This is a challenge for land plants. Support Aquatic Plant do not affect by gravity much because of the water movement reinforce the structure of whole plant effectively. Terrestrial plants (e. g. a pine tree) invest amounts of resources in support structures (Produce starchy compounds to thicken cell wall - wood) whereas aquatic plants invest fewer resources to support. Terrestrial Plants need strong stems and woody cells structure to withstand the force of gravity that will push them down. This evidence shows that the advantage of water plants and drawback of land plant. Reproduction Aquatic plants take advantage on reproduction by simple methods. Way of aquatic plants to reproduce the next generation is releasing pollen that can float on water surface and form spores to grow into new plants.

Meanwhile, land plants cannot spread pollen or seeds like aquatic plants. Wind-pollinated plants are suggested way to generate pollen from one plant to others. Seed also require a protective case.

Conclusion

This essay briefly tells us the different between aquatic plants and terrestrial plants. They have their own advantages and disadvantages such as terrestrial plants require evolve of roots to absorb nutrient from deep ground; plants in water require a chamber to store the gas. The structure adapted to withstand gravity for terrestrial plants. How difference between the ways of reproduction.