

ABSTRACT

In this thesis I dealt streptophyta algae resistance against desiccation. Even though the area previously devoted only a few people. Considerable amount of work in recent years has been published on the subject. They were found interesting information and discovered new facts. Research continues on and on, and it would be useful to look at what was observed. I believe that understanding this phenomenon is the key to understanding some of the events in the evolution of nature and realizing how tough life can be on the very border of its possible occurrence. I tried to sort out the current knowledge about the mechanisms of stress resistance streptophyta algae and hope that I obtained an overview will help me understand better this issues.

So far, it has been observed several approaches to defend against drying. Preventing drying, adaptation to water shortage and tolerance to desiccation. Among the preventive methods of defense include creating clusters of cells, multi-layered mats or secretion mucilage. As an adaptation to the lack of water algae evolved more complex answers in the form of changes in ultrastructure, or regulation of physiological processes. *Klebsormidium* is capable of half an hour to start the production of significant quantities callose and incorporate it into the cell wall. This will give the necessary flexibility, that due to rapid loss of water, avoid mechanical damage to the ultrastructure. It was found that drying accelerates photoinhibition. The research results suggest that some responses to stress conditions are species specific and that streptofyta its assumptions for the conquest of the land still carry with them.

