

Abstract

An internal leaf structure determines the way the light passes through the leaf and, thus, in this way it affects the use of the light in photosynthesis. The light reaching the leaf can be reflected, absorbed or transmitted. Leaf reflectance properties depend on the wavelength of irradiation and on the physical, structural and chemical properties of a leaf. Thereinafter, this Bachelor thesis briefly describes spectral methods used to study leaf optical properties. Furthermore, the thesis focuses on leaf anatomical structures and their effect on leaf optical properties, mainly in visible region of electromagnetic radiation (400-700 nm) and in near-infra-red region (700-2300 nm). The emphasis is given to the following anatomical properties and structures: epidermis, cuticle, trichomes, mesophyll structure, leaf thickness, chloroplast movement, chlorophyll content and distribution. The aim of the thesis is to summarize current knowledge on this topic.

Key words: leaf anatomy, leaf optical properties, reflectance, intercellular spaces, radiative transfer