

THE EVOLUTION OF MYCORRHIZAL FUNGI AS SYMBIOTIC PARTNERS

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The article analyzes the evolution of mycorrhizal fungi, which served as symbiotic partners in association with plants, more precisely with their root system. The advantage brought by the existence of mycorrhizal symbioses for plant nutrition, highlighted the influence this association has on plant growth and development. The existence of mycorrhizal fungi was demonstrated approximately 400 million years ago, the first discoveries being the fossils of Aglaophyton major plants that showed traces of arbuscules, these being considered edifying transfer structures for the vesicular-arbuscular endomycorrhizal type. Mycorrhizae are present in mature ecosystems, ecosystems that present a cyclical and unitary evolution of the components between the biotic and abiotic unit, at which point the mycorrhizal associations have the role of regulating the assimilation of food resources for the plants with which they are associated. In this association, hyphae play an important role in the nutrient cycle, having the function of stopping losses from the ecosystem

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1. Introduction

Fungi interact with nitrogen-fixing bacteria found in the soil. Colonization with vesicular-arbuscular fungi favorably affects the populations of nitrogen-fixing bacteria in the rhizosphere of the plant that colonizes it; and the growth and development of the plant colonized by both organisms is greatly stimulated. The hypothesis that the mycorrhizae are independent at any moment, compared to the physiological state of the host plant, is difficult to accept. Following an experiment carried out by [1], with hormones synthesized by different bacterial colonies (Azotobacter, Rhizobium, Pseudomonas), it was found that the formation of mycorrhizal associations is positively influenced by treatments on the host roots [8]. Among the hormones used in the experimentation stage, auxins are distinguished by the influence they have on the formation of roots and on the relaxation of cell walls; gibberellins act on the formation of leaves and roots, and cytokinins are involved in the basic processes of plant growth.

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