

MYCORRHIZAL NETWORKS IN A FERTILIZED WINTER WHEAT CROP

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Abstract

The simultaneous evolution of superior plants with mycorrhizian fungi has created effective and productive symbiotic systems. The enlarged transfer interface between the two partners and the hyphal networks increases the plants resistance to stress factors and its effectiveness of exploiting the nutritive reserves. During the vegetation period, once the colonization and surface of radicular system decreased, phosphorus depletion may take place, leading to a deficiency instalment of this element. Mycorrhizal hyphal networks and symbiotic interface provides a realistic image of the nutritional efficiency of plants. The aim of this study is to asses the impact of mineral fertilization with NPK at the end of the vegetation period of winter wheat. A balanced colonization of the radicular system is stimulated by applying moderated doses, but for the development of a strong arbuscular circuit, it is preferred to apply quantities of maximum 100 kg/ha phosphorus in the autumn and at the end of winter. Mineral fertilization maintain the wheat's degree of colonization at a 20% level.

Key words: winter wheat, hyphal networks, fertilization, arbuscular circuit.
