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Transport properties and regulatory roles of nitrogen in arbuscular mycorrhizal symbiosis

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Abstract

Many terrestrial plants can form root symbiosis with beneficial microorganisms for enhancing uptake of mineral nutrients or increasing fitness to adverse environmental challenges. Arbuscular mycorrhizal (AM) symbiosis that is formed by AM fungi and the roots of vascular flowering plants is the most widespread mutualistic associations in nature. As a typical endosymbiosis, AM interactions involves the differentiation of both symbionts to create novel symbiotic interfaces within the root cells, and requires a continuous nutrient exchange between the two partners. AM plants have two pathways for nutrient uptake, either direct uptake via the root hairs and root epidermis at the plant-soil interface, or indirectly through the AM fungal hyphae at the plant-fungus interface. Over the last few years, great progress has been made in deciphering

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