THE ROLE OF MYCORRHIZAL FUNGI IN INCREASING GRASS TOLERANCE TO DROUGHT UNDER DIFFERENT NUTRIENT REGIMES

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Mycorrhizae are a symbiotic relationship between plant root and fungus. Since their description over one hundred years ago, mycorrhizae have been shown to be extremely important to plant communities. They act to assist plants in harnessing scarce soil nutrients and potentially increase resistance to drought. Despite the recognition of the importance of mycorrhizal fungi to plants, we still do not know how diverse ecological factors affect mycorrhizal abundance. For this research we will be examining the role of mycorrhizal fungi on grass tolerance to drought under different nutrient regimes. In order to explore this question, we established a greenhouse experiment with four treatments: enhanced nutrients (NPK "miracle grow" spikes, 6:12:6) with mycorrhizae, enhanced nutrients without mycorrhizae, ambient nutrients (no fertilizer spikes) with mycorrhizae, and unenhanced nutrients without mycorrhizae. We exposed all plants to a dry down period of approximately two weeks to simulate drought-like conditions. I will be monitoring plant growth and physiology over the coming months and I expect to see healthier plants and changes in physiology that result in enhanced drought resistance in treatments with mycorrhizae and ambient nutrient conditions.