

Potential usefulness of mycorrhizal fungi for the management of urban green areas in Braunschweig (Germany)

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Urban green areas of Braunschweig can be classified into forests, parks, river banks, orchards resp. farmers gardens („Bauerngärten“), ornamental gardens, cemeteries, farm land, street edges, sport and play grounds, communal green, building areas and slag heaps. Some of these urban greens are exposed to great stresses like immissions etc. and vitality of the plants is low. High costs appear for the communities to replant these sensible areas.

Approximately 90 % of all plants in natural stands build a beneficial symbioses with arbuscular mycorrhizal fungi (AMF). More than 200 higher plant species occurring in Braunschweig were proofed for their mycorrhizal status. Nearly 30% of the urban greens show a lack of symbionts. Especially plants of areas with high frequency or intensity of disturbance showed low colonization rates by AMF.

Because of the beneficial effects of mycorrhizal symbioses to increase plant growth and stress tolerance of their hosts the introduction of adequate fungi is recommended. The AMF can already be applied during production of the plants for urban greens. The application of mycorrhizal inoculum will also benefit the growth of annual and perennial plants in balconies and private gardens. The symbioses of higher plants with AMF increases the vitality of the plants and thus lowers costs.