

Substrates to contrast compaction in urban tree plantings

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Aim of our work was to assess the ability of recycled crushed bricks employed as a substrate of growth, of contrasting the compaction and improving the development of trees in urban avenues. Soil employed in urban planting is often deep subsoil with a high percentage of fine material (silt and clay) and no organic matter. The excess of soil compaction due to trampling and car parking can seriously affect the survival of trees in these conditions. Coarse recycled materials already used in urban green areas, allow a better air circulation and water drainage in the rizosphere and can be a valid solution to reduce the post transplant crisis. The materials employed as substrate were: compost, soil, crushed bricks 0-30 mm, crushed bricks 6-30 mm. The experimental trial was set up planting 36 lindens in 1) soil, 2) soil +15% compost; 3) crushed bricks 0-30 mm; 4) crushed bricks 0-30 mm + 15% compost; 5) crushed bricks 6-30 mm; 6) crushed bricks 6-30 mm + 15% compost. The monitoring included: sprouts length, number of sprouts, SPAD chlorophyll, and dynamic plate resistance. The preliminary results showed that the crushed bricks showed the highest resistance to compaction and the combination of crushed bricks 0-30 mm + compost developed the average longest sprouts. At this stage of the research the best compromise between resistance to compaction and growth seemd to be crushed bricks 6-30 mm + compost.