

SUITABILITY OF DIFFERENT COMPOSTS FOR CONTAINER PRODUCTION OF ORNAMENTAL SHRUBS

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Sewage sludge compost (SSC), municipal solid waste compost (MSWC), forest waste compost (FWC) and white peat (P) were used to formulate four growing media: SSC 100% v; MSWC+P, 1:1 v/v; MSWC+FWC, 1:4 v/v; and SSC+MSWC+P, 1:2:1v/v/v. The control substrate was a shrub nursery medium which is traditionally used for summer culture (mix of composted pine bark, sand, white peat and topsoil). Media were fertilized with a mix of slow release and controlled release fertilizers. Young plants of *Atriplex halimus*, *Nerium oleander* and *Pittosporum tobira* were potted in these five growing media and were cultivated at Mediterranean coast open air conditions from March to August. Physical and chemical properties of growing media were determined. At the end of the culture, plant growth was evaluated by measuring the following parameters: plant height, leaf number, leaf area, dry weight biomass (leaves, stems, shoots, roots and total), dry weight percentage of the organs and shoot:root ratio.

The best performance of *Nerium oleander* and *Atriplex halimus* was observed in plants grown in MSWC+P, showing the highest values in leaf area, dry weight of leaves, stems and total and also in shoot:root ratio. The worst results for oleander were obtained in the nursery medium, where individuals were shorter and presented the lowest figures in leaf area and dry weight of stems, root and total.

There were few significant differences among the others substrates in *Atriplex halimus* but it could be noted a decrease in leaves, stems and total dry weights in plants cultivated in MSWC+FWC. Growth results in *Pittosporum tobira* were affected by a fusariosis disease that was observed during culture. The best performance of *Pittosporum* plants was obtained in SSC medium, showing higher values in height, leaf area, and dry weight (total, leaves, stems and roots) than those observed in the nursery substrate, which was the worst substrate, similar to what was indicated for oleander. The beneficial effect of SSC could be related to *Fusarium* suppressive properties that had been proved for this compost.

The obtained results are discussed in relation to growing media properties and showed that the studied composts can be used as components for ornamental shrubs growing media.

Keywords: *Atriplex halimus*, *Nerium oleander*, *Pittosporum tobira*, sewage sludge compost, municipal solid waste compost, forest waste compost

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