عنوان مقاله:

Reuse of peanut shells and Azolla mixes as a peat alternative in growth medium of Dieffenbachia amoena 'tropic snow'

محل انتشار:

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خلاصه مقاله:

Purpose An experiment was designed to introduce a substitute for peat, which is used in the production of bedding for thecultivation of ornamental plants and is imported and expensive. For this reason, the usability of peanut shells and Azolla,whose accumulation in the environment causes environmental problems, is a major research question.Methods In this work, Dieffenbachia amoena was grown in a growing medium that had substituted peanut shells andAzolla mixes composts (0, 15, 30, 45, 60, and 100 v/v %) for peat. The controls received only peat: perlite (2:1 v/v) withoutcomposts.Results It was found that, as the substitution of compost increased, nutrients also increased in the growing medium. Nonetheless,the nutrients led to minor changes in the leaves. As compost increased, the bulk density of the growing mediadecreased (0.17, 0.16, 0.15, and 0.15 g cm–3). The range of substrate physical properties, such as container capacity, airfilledporosity, and total porosity, was within the recommended range. The 15–100% substitution of compost increased theelectrical conductivity and pH of the growing media. The 30% compost treatment led to significant differences in the finalheight (32.06 cm), trunk diameter (11.66 mm), stem and leaf fresh weight (57.52 g), and stem and leaf dry weight (5.10 g)in comparison with the controls.Conclusions Considering the high price of peat in comparison with compost, replacing peat with 30% compost is economicallypreferable. Compost was thus found to be a good alternative to peat as an ornamental plants growing medium.

کلمات کلیدی:

Compost · Foliage plants · Nitrogen · Ornamental plants · Physical characteristics