Assessing the Utilisation of Coconut Coir (Peat) in the Ornamental Horticulture Industry

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ABSTRACT

A study was conducted to test the suitability of coconut coir produced in Ghana as a top soil substitute in the growing of ornamental plants by wayside growers. Two experiments were carried out in the Sinna Garden of the Faculty of Agriculture (Crop Science Dept.), University of Ghana to study the effect of processing method on selected physical and chemical properties of manually beaten and mechanically stripped coconut coir as well as the resultant effect on the growth of two ornamental plants; *Celosia cristata* var. *Carmine* and *Cordyline terminalis* var. Green Ti. Seven media mixes were formulated, top soil (TS), mechanically stripped coconut coir only (MS), manually beaten coconut coir only (MB), top soil-mechanically stripped coconut coir; 20:80 v/v (TSMSa), top soil-mechanically stripped coconut coil'; 40:60 vLv (TSMSb), top soil-manually beaten coconut coir; 20:80 v/v (TSMBa) and top soil- manually beaten coconut coir; 40:60 v/v (TSMBb). In Experiment I, (MB) produced celosia flower heads that were significantly larger and weighed significantly more than those in the other media mixes. Manually beaten coconut coir only also produced the heaviest fresh flower stem weights (TS) produced the longest flower stems while the shortest flower stems were produced in (TSMSa) mix. In Experiment II, (TS) gave the highest values in most of the parameters studied (plant height, shoot length, number of leaves per plant, number of leaves per shoot, fresh shoot weight, dry shoot weight, root number, leaf length, leaf width and leaf area). In both experiments, (TSMBb) mix gave better results than the other mixes studied. Manually beaten coconut coir performed better than mechanically stripped coconut coir and this could be attributed to the processing method used in extraction. It is therefore a suitable substitute for top soil. However, the use of manually beaten coconut coir alone may not be advisable for all plants due to problems with anchorage. Therefore, in an effort to reduce indiscriminate top soil removal for

use in ornamental horticulture gardens, the incorporation of manually beaten coconut coir in a 60:40 ratio to topsoil is recommended.

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