

## **Sugar Mill Compost as a Substitute of Peat Moss in Potting Media and its Effect on Sour Orange Rootstock Seedlings Growth**

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**I**NVESTIGATION on sugar mill compost as a local plant material for sour orange rootstock seedlings media was aimed to supplant the expensive imported peat moss. The study was conducted in the nursery of Horticulture Research Institute, Giza for two consecutive seasons. Uniform sour rootstock seedlings were grown in seven different potting media as follows; five various mixtures between sugar mill compost (SMC) and washed sand [(1:1), (2:1), (3:1), (4:1) and (1:2)] (v/v); while, the six<sup>th</sup> medium was a potting mixture of peat moss & washed sand at (1:2) and the last one was washed sand alone. Data revealed that seedlings grown in potting medium of 4:1 (SMC) to sand gave the best results either in vegetative growth (leaves parameters, shoots weight & diameter and roots weight) or leaf chemical contents (chlorophyll a & b and leaf mineral elements) followed by 3:1 (SMC) to sand media, while, the sand medium produced the lowest seedlings growth incidences for both seasons. Generally, as the percentage of compost became greater, the seedlings showed better performance. The peat and sand mixture (1:2) outstrips the (SMC) and sand (1:2) in some parameters.

It could be concluded that sugar mill compost mixture with sand at the rate of 4:1 and 3:1 is economically and efficiently recommended as a potting media for citrus seedlings instead of peat moss medium.

**Keywords:** Citrus seedlings, Sugar mill compost medium, Sand medium, Peat moss medium, Seedling growth.

Interest in the use of compost, a long standard practice for organic production, is becoming more common either for row crop or for permanent crop growers. This interest is driven by a number of factors, including the recognition that conventional production practices often result in a loss of soil organic matter, which can lead to degradation of soil tilth and biological health. Another major factor is the large increase in compost supply, a result of the increasingly widespread practice of composting urban yard and landscape waste (Tim, 2000)

Composting is a biological process in which microorganisms convert organic matter into a stabilized humuslike substance. Many of the organic materials used for composting are inappropriate in their raw form for use on land or around living organisms because of the presence of odors, weed seeds, human