THE BEST USE OF FARM WASTES AS MEDIA FOR SOME SEEDLINGS GROWTH

By

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B.Sc. of Agricultural Sciences, (Soils), Faculty of Agriculture,

Ain Shams University, 2004

Diploma of Environmental Sciences, Institute of Environmental Studies & Research

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A thesis submitted in Partial Fulfillment
Of
The Requirement for the Master Degree
In
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APPROVAL SHEET

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Abstract

This study was carried out at El-Zohrya garden, Horticulture Research Institute, Agricultural Research Center (ARC), Giza governorate, Egypt, in a plastic house during the period from 2010-2012. To study the effect of using nine treatments of different agriculture wastes with three replicates on vegetable nurseries as replacement of (peat-moss) in the growing medium and to find out the perfect media of cucumber, pepper, eggplant and cestrum diurnum seedlings. The treatments were : compost of bean, rice straw and corn stover + chemical fertilizer (M_1), bean + rice straw and pruning waste + chemical fertilizer (M_2), rice straw+ pruning and banana wastes + chemical fertilizer (M_3), rice straw+ corn stover and banana wastes + chemical fertilizer (M_4), compost after leacheat 1 + compost tea (M_5), compost after leacheat 2 + compost tea (M_6), compost after leacheat 3 + compost tea (M_7), compost after leacheat 4 + compost tea (M_8) and peat-moss (control) (M_9).

Results can be summarized as follows:

- **Cucumber seedlings.** In most treatments, the growing media M_7 and M_2 gave the highest significant values of cucumber shoots and roots growth parameters, while, the lowest ones were obtained by M_5 and M_3.
- Macro and micronutrients content of cucumber shoot improved significantly by using M_1, M_2, M_3 and M_5, whereas, the lowest ones were recorded by using M_6, M_7, M_8 and M_9.
- Results also reveal that the highest significant values of macro and micronutrients content of cucumber root were observed by using M_1, M_2 and M_3, while, the lowest ones were recorded by using M7, M8 and M9.

- **Pepper seedlings.** The highest significant values of most of shoot parameters were obtained by using M7. Vice versa the lowest values of shoot parameters record by M5- M8 and M9.
- The highest significant values of most of root parameters were obtained by using M6. on the other hand the lowest values of root parameters record by M3- M4- M5- M8 and M9
- **Eggplant seedlings.** The highest significant values of most of shoot and root parameters were obtained by using M2, M4 and M9. Whereas the lowest values were obtained by using M1, M3and M7.
- **Cestrum diurnum seedlings.** The highest significant values of most of shoot parameters were obtained by using M1 and M4, while the maximum significant value of most of root parameters was obtained by using M3 and M7. On the other hand the lowest values of most of shoot and root parameters were observed by using M6, M8 and M9.
- Therefore, used media produced by composting of natural materials such as pruning and banana wastes as well as bean, rice straw and corn stover is an approach available to farmers to replace the use of more expensive commercial media.

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