

دراسات على انتاج الخضروات فى البيئات البديلة بالزراعات الحضرية

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**STUDIES ON PRODUCTION OF VEGETABLES
IN SUBSTITUTE MEDIA IN URBAN
AGRICULTURE**

By

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B.Sc. Agric. Sc. (Vegetable), Cairo University, 2006

M.Sc. Agric. Sc. (Agriculture in Desert), Ain Shams University, 2010

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ABSTRACT

Dina Mohamed Salama Ahmed: Studies on vegetables production in substitute media in urban agriculture. Unpublished Ph.D. Thesis, Arid Land Agricultural Graduate Studies and Research Institute, Faculty of Agriculture, Ain Shams University, 2015.

This study was carried out during 2011, 2012 and 2013 for producing vegetable sprouts (Turnip, red radish and onion) and vegetable crops (Turnip, red radish, green onion, jews mallow and snap bean) using four growing media in wooden plot during winter and summer seasons. The wooden plot located in the kitchen experimental farm module in the Vegetables Experimental Farm of the Faculty of Agriculture, Ain Shams University, to study the effect of growing media on growth, yield characters and nutritional value of vegetable sprouts and vegetable crop products.

Turnip and red radish sprouts at cotyledon stage grown in clay and clay mixture media recorded higher sprout yield with good source of protein, fiber, phenols, flavonoids and vitamin C in addition to decrease lipid and sugars content. Three weeks old onion sprouts grown in peatmoss + vermiculate medium were rapid in growth with taller sprout length, longer white base length, taller sprout green tops with higher sprout yield and higher value of carbohydrates, energy, lipid, flavonoids, anthocyanin and potassium.

The best plant growth and yield characters of vegetable crop products (Turnip, red radish, green onion and snap bean) significantly increased in plants produced in peatmoss + vermiculate. On the contrary, jews mallow plants grown in clay medium produced the highest plant growth and yield. Chemical content of vegetable crop products varied depending on the type of plant and medium used. Also, vegetation for crops in different growing media was effective in

decreasing the heat refraction for plants and soil as compared to air temperature at all growth stages.

It can be generally concluded that the clay media can be recommended for producing sprouts (turnip and red radish) and jews mallow plants, while peatmoss + vermiculate medium can be recommended for producing onion bud sprouts and vegetable crop products (Turnip and red radish roots, green onion plant and snap bean pods) in the kitchen garden.

Keywords: Sprouts, Turnip, Red radish, Green onion, Jews mallow, Snap bean, Growing media, Nutritional value.

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