

Fabrication and Evaluation of Low Cost sub Irrigated Self- Composting Container

G Maniprakash Reddy, K Krupavathi, M Lakshmi Durga and A Udaybhaskar
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

ABSTRACT

Availability of natural resources are declining with increasing population and Urbanization. Whereas urbanization has been an instrument of economic, social and political progress, it has led to serious socio-economic problems. Other major problems of urbanization are land and water. Due limitation of land and water even for kitchen gardening, in urban areas the people use to grow in small pots or containers popularly known as container gardening. A low cost container from recycled materials with multi objectives like tower gardening, sub irrigation and self-composting techniques to provide the optimum controlled environment for growing a wide range of agricultural product has been fabricated and evaluated at College of Agricultural Engineering, Bapatla. For evaluation of fabricated bucket container for sub irrigation three available soils namely sandy, sandy clay and silty loam soils were selected. The capillary rise in container is highest in the sandy soil in the first one hour and comparatively less capillary rise is in sandy clay soil but total height of capillary rise is highest in the sandy clay. On the other hand, in coarse textured soil (sand), the upward movement of the water is quick but covered less distance than other two soils with the same head. A lowest average moisture variation of 4.63 % was observed compared to the sandy clay (14.02 %) and sandy soil (17.25 %). On comparison with the field, the water saving is more than 50 %. The water that applied to the field can be utilized for growing double crop in the container. The same in case of area utilised. The idea of planting on the sides of the container, decrease the land requirement drastically.

Key words: *Composting container, Evaluation, Fabrication.*