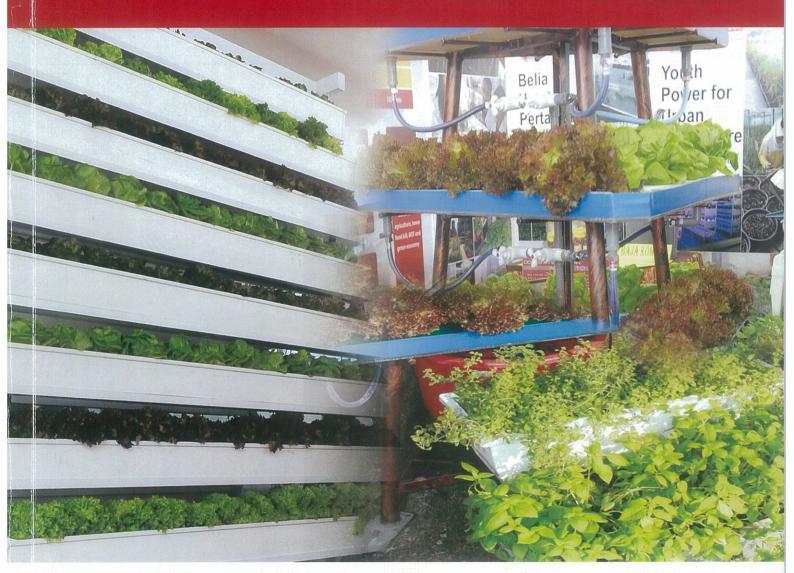
## NATIONAL SYMPOSIUM ON URBAN AGRICULTURE

Towards Ensuring Food Security

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## MUSKMELON (Cucumis melo) PRODUCTION USING HYDROPONICS AND FERTIGATION AS AFFECTED BY CONTAINER DESIGN

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Muskmelon (Cucumis melo L.) is a popular fruit that is suitable for planting in intensive systems using hydroponics or fertigation in closed environments and is thus suited for urban agriculture. The experiment was aimed at evaluating the productivity of muskmelon using different hydroponic systems in addition to fertigation in polybags. Treatments comprised of closed circulating systems with the deep-flow technique (DFT) using three different designs of growth containers namely, i) the triangular, ii) double-U and iii) U-shaped PVC containers. The fourth used an open fertigation system with plants grown in polybags with coconut fiber (coco peat) as the growth medium. Electrical conductivity (EC) of nutrient solution in triangular containers was higher than in the other systems especially during reproductive growth. The EC of nutrients in the solution was lowest with the double-U shaped among the different types of containers. The double-U system was superior to other systems as it gave the highest fresh fruit weight. No significant difference in fresh fruit weight was observed between the fertigation method and triangular containers. On the other hand, fruit quality as measured by the TSS (Brix 16) was highest in the U-shaped system compared to the other systems. The N, P, K, Ca and Mg content of leaf tissue of plants in the U-shaped container was also the highest compared to the other systems. During vegetative stage, Leaf Area Index (LAI) of plants grown in polybags was significantly higher than in the other systems but this did not result in higher fruit weight. In conclusion, use of either the U or Double-U shaped container were recommended as they gave higher fruit yield and quality as a result of better aeration and cooler growing temperature.

Keywords: hydroponic, deep flow technique, muskmelon, total soluble solids

## ROLE OF KNOWLEDGE MANA( AGRICULTURE:

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The increase in population has resulted in Therefore, agriculture has become one of the purpose of food production and food s areas. Agricultural resources and man pogrowth of agriculture. Besidesthese, the oth and extension is information which can production in agricultural field related to the factor in agriculture, skilled and effective agriculture by continually increasing and en countries, applying knowledge manageme technology (ICT) are still in the early stage. and identify the potential of using ICT and that was used for this study was observation analyzed using SPSS software. Results show shortage of ICT tools, level of education of information and workers training are th management and knowledge transfer (KT) in

Keywords: Peri-urban agriculture, Knowledge