

花盆省水設計之研究

The Study of Water-Conserving Designs of Pots

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摘要

台北花博有許多花卉造型，造型上的盆花需每天澆水多次，但遠離地面，常澆不到水就枯死，因此本研究探討花盆省水設計，使盆花不需每天澆水也能正常生長。本研究採用 DMAIC 步驟與實驗設計(DoE)整合方法，藉由 DMAIC 步驟的明確定義，將生長函數的 5 個參數簡化為 1 個參數，讓實驗設計(DoE)很容易進行；然後實施 DMAIC 步驟對實驗設計(DoE)的實驗結果進行分析，產生儲水器與擋土器的創意，設計出省水花盆、省水花台、省水培養床與地下省水設施，這些省水設施已在生態園成功使用。

關鍵詞：省水、花盆、實驗設計、DMAIC

Abstract

During Taipei international Flora Exposition, plants are housed in various types of pots. Despite being watered numerous times per day, plants often die from dehydration when they are placed in elevation. Thus this study explores specific water-conserving pot designs that enable plants to prosper without daily watering. This study combines DMAIC steps with Design of Experiment(DoE) methodology. Using DMAIC to create a clear definition, 5 different plant growth factors are then synthesized into a simplified factor to streamline DoE executions. Afterward, DMAIC applied to DoE results for further analysis, yielding water-conserving designs of pots, stands, and beds. These water-conserving infrastructures have been successfully deployed in gardens.

Keywords: Water-conserving, Pot, Design of experiment(DoE), DMAIC