

Investigation of Vegetation Under Tree Shade



In Hong Kong, tree seeds are always mixed together with grasses seeds in the mixture of hydroseeding material in order to provide a strong protection to slope surface especially for the Geotechnical Engineering Office's Project. After the trees have been well established, it can be easily observed that the grass cannot establish under the tree shaded area. This paper aims at investigating the vegetation under tree shade.

REASONS FOR THE DEAD OF GRASS UNDER TREE SHADE

1. Grass such as Bermuda and Bahia are planting species, which require intensive sunlight for the establishment, but sunlight is minimized under the shade of tree crown (Figure 1).
2. The shade of tree crown disturbs the hydroseeding seeds from receiving rainwater.
3. Too dense of tree rooting system such that heavy competition for moisture and nutrient for the establishment of non-native hydroseeding grass species from the existing native species.

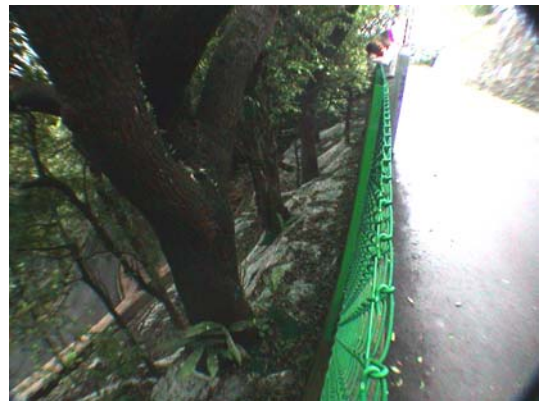


Figure 1 Inadequate Sunlight



Figure 2 Fallen Broad Leaf

4. The large amount of fallen leaf tree species under shade area such that most of the hydroseeding grass seed was covered with fallen leave. Therefore the hydroseeding seeds could not receive adequate sunlight and rain water for germination (Figure 2).

SOLUTIONS TO ACHIEVING VEGETATION UNDER TREE SHADE

1. Planting of climber under tree shade such as *Wedelia chinensis* and *Ficus pimula*. These species are native species in Hong Kong which is much more suitable for the local climate. (Figure 3)



Figure 3 *Wedelia chinensis*

2. Pit Planting of broad leaf shrubs such as *Alocasia odora* and *Hymenocallis Americana*. These species are broad leaf species which can absorb sunlight even under dense shade region. (Figure 4)



Figure 4 *Hymenocallis Americana*