

灰關聯決策在暖季草坪草種抗旱性評估之應用

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摘要

缺水逆境是限制草坪生長的最主要環境因子之一，選用抗旱性佳的草種，將可節省灌溉水資源。本研究以台灣常見暖季草種，包括普通百慕達草(*Cynodon dactylon* L.) (Ber)、假儉草(*Eremochloa ophiuroides* Hack.) (Cen)、類地毯草(*Axonopus affinis* Chase.) (Car)、海雀稗(*Paspalum vaginatum* Swartz.) (SP)、熱帶地毯草(*Axonopus compressus* Beauv. 'Tropical') (CarT)、巴西地毯草(*Axonopus compressus* Beauv 'Brazil' tropical carpetgrass) (CarB)、馬尼拉芝草(*Zoysia matrella* Merr.) (Zoy)等為材料，於台灣大學人工氣候室日夜溫 30/25 進行，以缺水乾旱與正常供水兩種處理，並記錄水勢值、相對水分含量、葉綠素螢光值與滲透勢值等。依各測值以灰關聯決策方法評估各草種的抗旱性。各草種的抗旱灰決策排序分別為，馬尼拉芝、百慕達草較佳、熱帶地毯草、類地毯草次佳、假儉草海雀稗、巴西地毯草較差。

關鍵辭：灰決策、草坪草、抗旱性。

Application of grey relational decision on drought-resistance of warm grasses

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Abstract

Drought stress is one of the main factors which restrict the growth of turfgrass. Choosing the turfgrass which are drought-resistant is a way to save the water resources. This research, therefore, compared the drought-resistant performances of common warm-season turfgrasses which are commonly seen in Taiwan, including common bermudagrass (*Cynodon dactylon* L.) (Ber), centipedegrass (*Eremochloa ophiuroides* Hack.) (Cen), carpetgrass (*Axonopus affinis* Chase.) (Car), seashore paspalum (*Paspalum vaginatum* Swartz.) (SP), tropical carpetgrass (*Axonopus compressus* Beauv. 'Tropical') (CarT), 'Brazil' tropical carpetgrass (*Axonopus compressus* Beauv 'Brazil' tropical carpetgrass) (CarB), and manilagrass (*Zoysia matrella* Merr.) (Zoy). Different tested turfgrass were cultivated under phytotron (day 30 / night 25) at National Taiwan University. These turfgrasses were planted under environments with drought treatment or with normal water supply respectively. The water potential, relative water content, chlorophyll fluorescence (Fv/Fm) and osmotic potential were recorded. All the tested turfgrass, were compared by grey relational decision which were based on the investigation items. The preference order for drought-resistance is: manilagrass, bermudagrass Tropical carpetgrass, carpetgrass, centipedegrass, seashore paspalum, 'Brazil' tropical carpetgrass.

Keywords: gery decision, turfgrass, drought-resistance.