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STUDY ON EVALUATION OF CAMPUS PLANTS' AUTUMN LANDSCAPES AND STUDENTS' EMOTIONAL RESPONSES

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Abstract

This study used the Analytic Hierarchy Process (AHP) to evaluate autumn plant landscapes across 5 universities, analyzing students' emotional responses to diverse autumn scenes. Findings from expert-weighted assessments and student evaluations revealed that ornamental value (B1) achieved the highest score (6.96), emerging as the most critical element of university campus autumn plant landscapes. Plant autumn color richness (C2), plant life form diversity (C7), and plant species diversity (C8) were also pivotal for high-quality landscapes. Collectively, these results position plant community structure as the core determinant of landscape quality. Students demonstrated profound appreciation for the diverse, vibrant autumn landscapes at Jilin Agricultural University's Grade I plots, where rich chromatic and biological diversity enhanced their perception of autumn landscape values. Rosaceae, Pinaceae, and Oleaceae of key plant families proved fundamental for cultivating distinctive autumnal atmospheres, serving as core constituents in high-quality designs. Physiological data indicated significantly lower pulse and heart rates in Grade I plots compared to lower-grade areas, demonstrating their effectiveness in reducing physiological arousal and promoting short-term calmness. Conversely, plots dominated by high-saturation red/orange hues (JA21/JA22) elevated participants' heart rates, indicating they may induce short-term anxiety or restlessness. Optimal design prioritizes green vegetation as the foundational matrix while strategically integrating autumn ornamental species. This approach represents an advancement in evidence-based campus landscape design, facilitating nuanced emotional restoration while demonstrably improving students' psychological and physiological well-being in the short term.

Key words: autumn plants, campus landscapes, landscape evaluation, students' health, sustainable development

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