Alternative Groundcovers and Low-Input Nativegrasses for the Southwest U.S.A

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Abstract

The demand for using low input plant materials for the landscapes of the southwest United States necessitates the evaluation of low-input nativegrasses and alternative groundcovers for landscapes of Arizona. This project investigates nine native and two non-native plant species as low input plant materials when turfgrass is removed in non-play areas of golf courses or other landscapes. Studies were initiated in May 2016 at Camelback Golf Club in Scottsdale, AZ and in June 2017 at Briarwood Country Club in Sun City West, AZ. Treatments plots measuring 36 feet² were arranged in a randomized complete block design with three or four replicates with varying irrigation practices as per the four growing seasons: summer, fall, winter, and spring. Data were collected for plant emergence, plant height, and percent ground cover. The overall plant quality evaluation data for greenness, uniformity and vigor were collected. Data were analyzed using JMP ver.13 statistical software and means compared using Student’s t-test. All plant species, except Zinnia acerosa (desert zinnia) emerged, survived and established a stand at both locations. Plant species performed at varying levels to establish, provide surface area coverage, and plant quality throughout growing seasons. Kurapia (Lippia nodiflora), plains lovegrass (Eragrostis intermedia), alkali sacaton (Sporobolus airoides), alkali muhly (Muhlenbergia asperifolia), and blue grama (Bouteloua gracilis) remained green and attractive throughout the year at both locations. Big galleta (Hilaria rigida), spike dropseed (Sporobolus contractus), sand dropseed (Sporobolus cryptandrus), buffalograss (Buchloe dactyloides) and annual grass teff (Eragrostis teff) performed well for the overall plant quality parameter during the spring and summer of the year. The evaluation at both sites indicated that kurapia was very aggressive and vigorous as a groundcover. Continued multiple years of research that are replicated over locations and seasons are needed to provide more reliable information and conclusive results for those species to enumerate their desirable characteristics and inputs for low water use, maintenance practices, and pest impacts.