

EFFECTS OF EROSION CONTROL BLANKET ON THE GERMINATION OF SIX NATIVE PLANT SPECIES¹

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Abstract. No Blanket (full irradiance), Blanket (partial irradiance), and No Light (complete light exclusion) treatments were evaluated for their effect on the germination of *Antennaria alpina*, *Carex haydeniana*, *Carex paysonis*, *Carex phaeocephala*, *Senecio triangularis*, and *Sibbaldia procumbens*. Five replicates of 25 seeds were established for each species x treatment. All lots were sown on double germination pads in petri dishes, exposed to cold-moist chilling, and placed in an environmental growth chamber at 30°C (86°F) days for 8-hours and 20°C (68°F) nights for 16-hours. No Blanket treatments were left uncovered, Blanket treatments were covered with straw coconut fiber erosion control blanket, and No Light treatments placed inside in an opaque box. Quantum light and temperature levels were recorded for each treatment. Germination and biotic contamination data was recorded before and after a secondary full irradiance treatment. Statistical verification of results by Chi-Square or Fisher's Exact tests ($p < 0.01$). With all species except *C. phaeocephala*, Blanket resulted in statistically less percentage germination than No Blanket. In all cases, No Light resulted in less percentage germination than No Blanket, and in most cases, less percentage germination than Blanket. Although species-dependent, exposure to a secondary full irradiance frequently resulted in additional germination. There was greater percentage contamination of germinated seeds of some species with the Blanket and No Light treatments than the No Blanket treatment. Study findings suggest that in-situ blanket removal will result in additional germination of some species. Increased seeding rates prior to blanket installation or a secondary seeding after blanket installation, should improve establishment. Surface-sterilized or fungicide treated seeds may reduce contamination. Use erosion control blanket that provides adequate erosion protection and optimum light transmission. Field testing is needed to determine whether any type of erosion control blanket results in a net loss or gain in germination.

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