

Hillslope Treatment Effectiveness and Performance Characteristics Summary Chart

Ratings of post-fire hillslope stabilization treatment effectiveness for three rainfall regimes (high intensity, low intensity, and high total amount; see fig. 4 and Table 1 in main text) are presented in the table below. Treatment effectiveness codes: 1=more effective; 2=somewhat effective; 3=not effective. Treatments are also rated as more likely (more) or less likely (less) to exhibit performance characteristics that impact treatment effectiveness, post-fire recovery, and/or the environment. Other phrases are used to describe the performance characteristics of treatments that are dependent on circumstances or are not effectively rated as more or less likely. Details of treatment performance characteristics can be found in the individual treatment sections of the main text.

		Straw mulches	Wood mulches	Hydro-mulches	Soil binders (PAM)	Contour-felled logs (LEBs)	Straw wattles
Overall effectiveness (rating: 1, 2, 3)	High intensity rainfall (>2 yr return interval)	1	1	3	3	3	3
	Low intensity rainfall	1	1	1	2	1	1
	High rainfall amount (>2 in [50 mm] in 6 hrs)	1	1	2	3	2	2
Performance characteristics that impact effectiveness	Resistant to wind displacement	less ^a	more ^a	more	more	more	more
	Remains functional for more than 1 yr	more	more	less	less	more	more
	Provides ground cover	more	more	more	less	less	less
	Increases infiltration	more	more	not known	depends on conditions	less	less
	Increases soil moisture retention	more	more	more	less	less	less
	Shortens flow paths	more	more	less	less	more	more
	Traps sediment	more	more	less	less	more	more
	Slows development of concentrated flow	more	more	more	more	less	less
Other considerations	Contains noxious weed seeds	possible	less	less	less	less	possible
	Delays re-vegetation	depends on mulch thickness	depends on mulch thickness	less	less	less	less
	Harmful to the environment	less	less	depends on components	depends on type and concentration	less	less

^aIn wind tunnel tests, agricultural straw resisted movement in wind speeds of 15 mi h⁻¹ (6.5 m s⁻¹) and wood straw resisted movement in wind speeds of 40 mi h⁻¹ (18 m s⁻¹) (Copeland and others 2006).