REDUCING POST-FIRE HILLSLOPE EROSION WITH WOOD SHREDS

BACKGROUND

Wood shreds and other mulch treatments (agricultural straw, woods strands, and hydromulch) are frequently recommended as a technique used to stabilize hillslopes by providing immediate ground cover and to mitigate post-fire increases in runoff and erosion rates.

RESEARCH

Research Activity: Guidelines for the production transport, and aerial application of wood shred mulch as a post-fire hillslope stabilization treatment were developed from laboratory and field studies, several field operations, and the evaluations by professionals involved in those operations (Robichaud et al. 2013).

Management Implications: Although wood shreds are much heavier, take longer to apply, and are more costly than other mulch treatments (e.g., agricultural straw), the advantages of wood shreds—on- or near-site availability, greater stability in high winds and on steep slopes, and lack of unwanted plant seeds from off-site—make wood shred mulch useful in areas where other mulch treatments may not be desirable. Any post-fire mulch application should be monitored by uniformity of ground cover spread and the percent ground cover achieved as opposed to a weight-based application rate. Monitoring ground cover amounts and uniformity may be done using on-site surveys or newly-developed remote sensing techniques that could provide more comprehensive examinations of mulched areas.

KEY POINTS

- Post-fire mulch treatments provide ground cover on hillslopes where erosion mitigation is needed.
- Laboratory and field studies have shown that wood shred mulch can be an effective post-fire hillslope treatment.
- Wood shreds have been successfully produced from burned and green trees.
- The effectiveness of post-fire mulch applications should be monitored and assessed to determine uniformity of ground cover spread and the percent ground cover achieved.

FOR MORE INFORMATION...


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