

Timber product value loss due to prescribed fire caused injuries to red oak trees

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#### ABSTRACT

Prescribed fire is used for a variety of management tasks in sites containing merchantable sized red oak trees with sparse information on how it affects lumber product values. We analyzed how fire related injuries affect lumber volume and value in 88 red oak trees in southern Missouri. Trees with varying degrees of external fire damage, time since fire, and diameter were harvested and milled into dimensional lumber. Lumber grade changes and volume losses due to fire related injuries were tracked on individual boards and analyzed using the individual log as the unit of study. Overall, value and volume losses were surprising low. If fire damage is less than 50 cm tall and/or 20 percent basal circumference injured, little value loss is expected. If these thresholds are exceeded, some value loss is likely, though very low if the tree is harvested within 5 years. This study offers one manner in which the cost of using prescribed fire as a management tool in forests can be considered.