



## **Soil CO<sub>2</sub> Emissions in Masticated Woodlands of *Juniperus osteosperma***

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*Juniperus osteosperma* trees are mechanically masticated annually on thousands of hectares of former *Artemisia tridentata*-dominated western-US lands by the Bureau of Land Management to reduce fuel loads and potential catastrophic wildfire. This mastication treatment leaves shredded needles, wood, and bark residue over preexisting canopy litter and interspace soil. We quantified CO<sub>2</sub> emissions from the surfaces of masticated and undisturbed microplots in a randomized complete block design using a Li-8100 Automated Soil CO<sub>2</sub> Flux System (LI-COR Biosciences, Lincoln, NE). Measurements were taken 1 day after rainfall events in Phase III (high density) *J. osteosperma* in the eastern Great Basin region of Utah. Preliminary results suggest that microplots with preexisting canopy litter or with canopy litter removed emit more CO<sub>2</sub> than either interspace microplots or interspace microplots covered with masticated tree residue. The greater CO<sub>2</sub> emissions from canopy litter microplots may be due to greater soil organic matter. In addition, undisturbed interspace microplots appear to emit more CO<sub>2</sub> than interspace microplots within the masticated plots possibly due to continued tree-root respiration in the undisturbed interspace microplots.

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