Effects of vegetation treatments on soil invertebrate populations in the Great Basin rangelands.

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Background

Cheatgrass (*Bromus tectorum*), which is an exotic annual grass that is capable of invading native vegetation in the western United States and can seriously disrupt restoration efforts and is capable of killing established or recovering native plants by competing for resources, (Baker et al., 2009). Controlling invasive species in these lands is important in order to preserve the sagebrush.

Methods

The “Orchard” site that this study will be done on is from the original ISA-BAC. Two soil cores were taken from 12 key plots (three control, three treated with D7 and three of each herbicide treatment). Soil core samples were collected and placed in a Berlese-Tullgren funnel system to isolate soil invertebrates. Once isolated, invertebrates were viewed under a stereoscope and classified to order.

Results

The herbicides, imazapic and rimsulfuron, and the D7 bacteria are expected to have a positive impact on soil invertebrates based on previous studies done in this field. Herbicide application tends to increase the soil invertebrate populations due to increased nutrients from plant residue, less exposure and edibility of herbicides for some invertebrates, (Liu et al., 2016). However, the differences observed in these communities are insignificant and showed very little differences between the soil invertebrates in the different plots.

More Acari species were found than any other across the board. Slightly more soil invertebrates were found in the treated plots when compared to the control.

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