

Comparing soil nutrients between an annual burned and patch burn grazing system

First RMarkdown

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Background:

Cattle production often conflicts with environmental conservation and biodiversity. Temperate grasslands are managed by annual burning and grazing (**ABG**) to boost cattle fodder yield. ABG homogenizes vegetation and eliminates dead plant material, reducing habitat quality for local flora and fauna. Patch burn grazing (**PBG**) is a new management approach that promotes conservation and sustainability while maintaining cattle weight gain. Fire and grazing create a “*mosaic*” of fodder in PBG landscapes. In an unfenced unit, fire attracts grazing animals to burned areas while reducing grazing on unburned parts. Heterogeneity, caused by disturbance in a PBG landscape, increases biodiversity, connectivity, and ecosystem function and services. Crucially, PBG maintains cow output equivalent to traditional management approaches while possibly benefiting animals and environmental resources. PBG’s belowground effects on soil health, carbon sequestration, bird, small mammal, insect, microbial, and plant populations are unknown. Resin bags were buried in the soil in this area from May to August 2021 to study the effects of ABG and PBG on soil nitrate (**NO₃**), ammonium (**NH₄**), and phosphorous (**P**). Resin extracts measured each sample’s NO₃, NH₄, and P levels. Overconcentrations were diluted and remeasured.

Data:

Summary:

Looking at the graphs