Surface Deep;

The effects of microsites on weed emergence in grassland restoration

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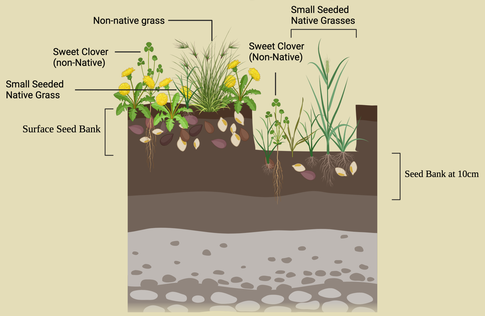
Introduction

- Grasslands are important for wildlife, substantial carbon sinks, and provide flood and erosion mitigation.
- Today, most grasslands are degraded and fragmented, making them a restoration priority.
- Introduced weeds are a significant barrier to grassland restoration.
- **Will creating pits reduce the seed bank, or create a more suitable environment for weed emergence?**

The soil seed bank of surface plots compared to microsites

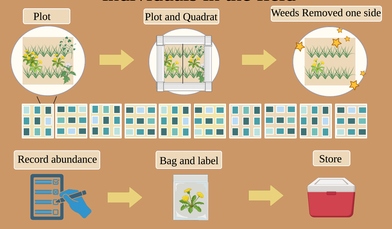


Conclusion

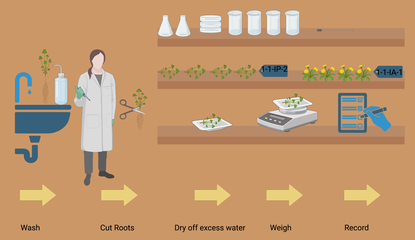
- No statistical significance was found between the abundance of weeds collected between pit and surface plots.
- There was a significant difference in the composition of weeds found in each site.

Methods

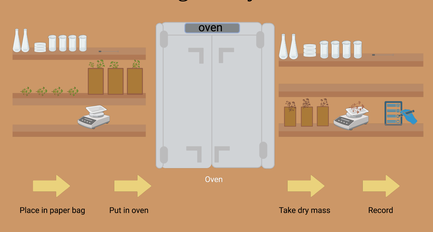
Collecting, recording and storing individuals in the field



Cleaning and taking the wet mass of individuals



Removing water from the plant tissues and taking the dry mass



Images

Prickly Lettuce

Bindweed

Results

Wet biomass of weeds found in microsites and surface plots

Abundance of weeds found in microsites and surface plots

Discussion

- The majority of introduced annuals were prickly lettuce, and the majority of introduced perennials were bindweed.
- Bindweed is more established due to its root system, making it better suited to take advantage of the increased soil moisture in the pits, and potentially out-competing the prickly lettuce. Prickly lettuce is more tolerant of dry surface conditions.
- In the future, conducting research over several field seasons would provide more conclusive data.