

The influence of producer management and industrial disturbance on grassland seed banks in AB

Lysandra Pyle, Edward Bork, Linda Hall

Dept. of Agricultural, Food and Nutritional Science, 410 Agriculture/Forestry Center, University of Alberta, Edmonton, Alberta, Canada, T6G 2P5. Email: pyle@ualberta.ca

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Introduction

Grassland seed banks are shaped through a multitude of disturbances that affect the aboveground species composition, reproductive output of flowering plants, and soil cover. Disturbances such as cultivation, fire, and pipeline installation can also have a legacy effect on seed bank composition. We will be describing germinable seed bank composition under disturbance regimes in north central Alberta's Central Parkland and Dry Mixedwood natural subregions under divergent management regimes and the legacy of pipeline disturbance Mixedgrass prairie. In north central Alberta 102 pastures were sampled and land use history and current management was identified through producer interviews. Management factors with the potential to affect seed bank formation such as grazing systems, timing of grazing, livestock types, pasture seed mixtures, cultivation, pasture age, herbicide use, etc. were observed. Plant community composition and the corresponding rangeland health score was also assessed. In south eastern Alberta's Mixedgrass prairie aspects of pipeline construction (age, width, and distance from the disturbance) were related to seed bank, plant community, and biological soil crust (lichens, mosses, spike-mosses, etc.) composition. Dynamics between these community layers and the role of ground cover components such as soil crusts will be discussed.

Biography

Lysandra is a graduate student at the University of Alberta studying seed banks and working towards a PhD in rangeland plant ecology. Her two main projects involve linking seed banks to plant communities, rangeland health, and producer management in north central Alberta's parkland, and describing the dynamics between seed banks and vegetation along pipeline disturbance in mixedgrass prairie. Prior to graduate school, she attended the University of Regina and discovered plant ecology while working in south western Saskatchewan.

Contact:

Email: pyle@ualberta.ca