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### Data S1

### The measured values of dried aboveground biomass for 10 tallgrass prairie plant species (4 grasses, 6 forbs) grown from seed and subjected to various warming, seed and soil provenance treatments in a mesocosm experiment at Kellogg Biological Station, Hickory Corners, MI, USA, June-August 2016

### Author(s) [of the material provided in DataS1.zip]

Louis W. Jochems  
Human-Environment Systems, Boise State University  
1910 W University Dr, Boise, ID, 83725, USA   
[louisjochems@u.boisestate.edu](mailto:louisjochems@u.boisestate.edu)

Jennifer A. Lau  
Department of Biology and the Environmental Resilience Institute, Indiana University, Bloomington, IN 47405, USA  
jenlau@iu.edu

Lars A. Brudvig

Department of Plant Biology and Program in Ecology, Evolution and Behavior, Michigan State University, East Lansing, MI 48824, USA

[brudvig@msu.edu](mailto:brudvig@msu.edu)

Emily Grman

Department of Biology, Eastern Michigan University, 441 Mark Jefferson Hall, Ypsilanti, MI 48197, USA

egrman@emich.edu

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### File list (files found within DataS1.zip)

HeatingArraysAGB\_Data.csv

HeatingArrays\_Analysis.R

1. HeatingArraysAGB\_Data.csv

**Description:**

There are 20 columns in this spreadsheet with the following descriptions for each variable:

“pot” refers to the pot number in which the experimental communities grew. There were 144 total pots grown in the experiment.

“heating.ring,” or heating array, refers to the array/ring block in which a given pot grew. For example, “Heating 1” and “Control 1” would be Block 1 of a pair temperature treatments across which treatment combinations of pots were randomized. For a visual schematic, see Appendix Sl: Figure S3.

“trt” refers to the temperature treatment with two levels: “Heated” and “Control.”

“population,” or seed provenance, refers to the provenance for which the seeds of all 10 species originated. There are three levels: “local,” aka Local Northern (as referred in the manuscript), “northern” aka Non-Local Northern, and “southern” aka Non-Local Southern.

“soil,” or soil provenance, refers to the provenance from which the soils of remnant prairies originated. There are three levels: “local remnant,” aka Local Northern, “northern remnant” aka Non-Local Northern (as referred in the manuscript), and “southern remnant” aka Non-Local Southern.

“Inocula.source” refers to the name of the specific remnant prairie site from which the soil originated within the soil provenance. Note: for the northern soil sites, we were not given specific names of the tallgrass prairies, hence why we refer to them as “Northern 1, 2, 3, or 4.” We sampled 4 remnant tallgrass prairie sites within each soil provenance.

“CORLAN” is the species code for *Coreopsis lanceolata*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“DALPUR” is the species code for *Dalea purpurea*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“ECHPUR” is the species code for *Echinacea purpurea*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“LESCAP” is the species code for *Lespedeza capitata*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“RUDHIR” is the species code for *Rudbeckia hirta*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“RATPIN” is the species code for *Ratibida pinnata*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“SCHSCO” is the species code for *Schizachyrium scoparium*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“ANDGER” is the species code for *Andropogon gerardii*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“KOEMAC” is the species code for *Koeleria macrantha*. Values are dried aboveground biomass measured in grams, typically to the thousandths decimal place.

“CommTotal” is the total productivity of the experimental community measured in grams. These values were summed across each row of the 10 species values.

“Unknown.Grass” refers to any observed grass species that grew in a pot. NA means no unknown grass grew, while a value indicates that an unknown grass did grow in that given pot for which we then measured its biomass.

“Unknown.Forb” refers to any observed grass species that grew in a pot. NA means no unknown forb grew, while a value indicates that an unknown forb did grow in that given pot for which we then measured its biomass.

1. HeatingArrays\_Analysis.R

**Description:**

The R script file for which we conducted all analyses on the above dataset. Make sure to install all libraries listed to run the necessary functions for each type of analysis. Explanations of each major functions are included as comments throughout the script.