Supplementary Materials

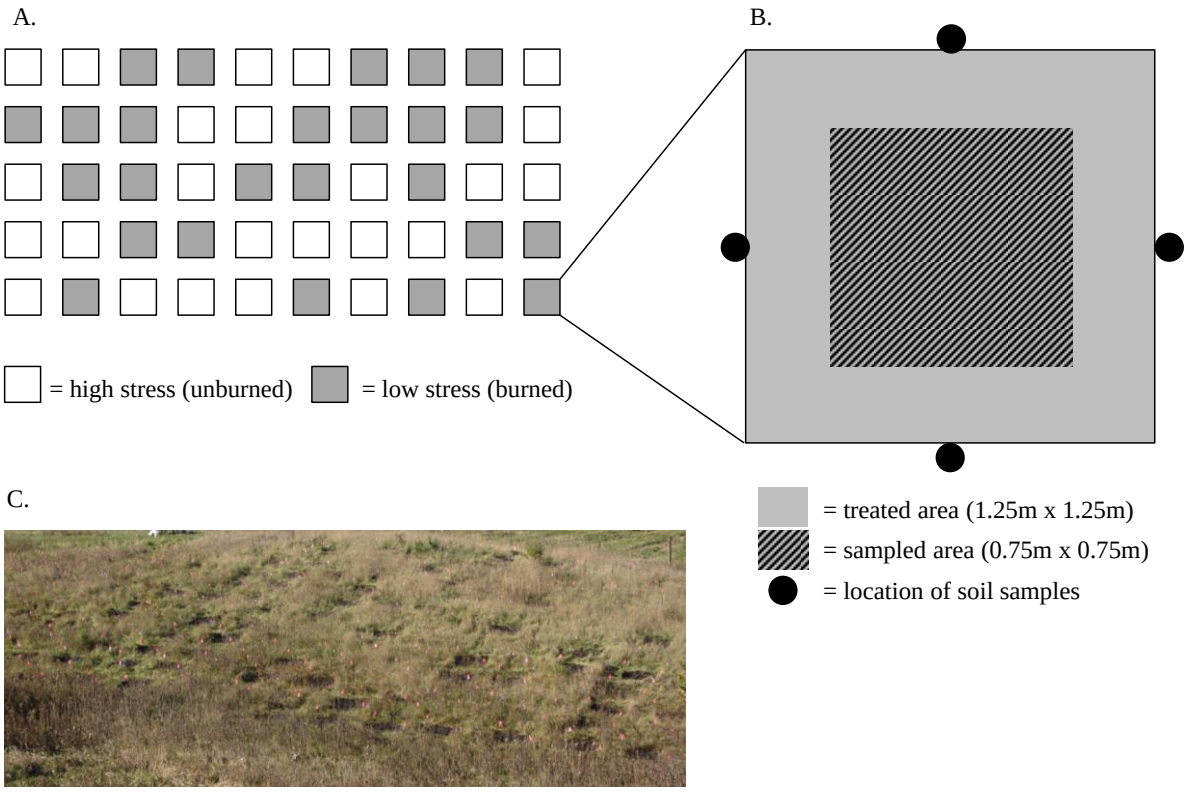

Figure S1. Experimental layout and plot design. A) Grid of plots, separated by a one meter buffer, randomly assigned to experimental treatments. Fifteen replicates for each combination of experimental treatments were included in a fully randomized design. B) Plot design consisted of an interior core area which was surveyed for established seedlings of planted species, surrounded by a 25-cm buffer of treated (i.e., burned, planted with seeds) area that was excluded from the survey to address any edge effects. Soil samples collected from the four sides of each plot were combined to yield a single measure of soil water holding capacity for each plot. C) Photo of experimental field following the fire treatment.

Supplementary Methods

Fire treatment effects on litter

To evaluate whether the experimental fire treatment was having the intended effect on site stress by mechanistically removing accumulated litter, we visually estimated the percent cover of bare ground and litter within each plot both before and after the fire manipulation. A paired t-test comparing pre- and post-burn plots to one another indicated that the burn treatment significantly increased the percentage of bare ground (t=6.7, p<0.001) and decreased the percentage of litter present (t=13.0, p<0.001). Furthermore, in the growing season following the fire manipulation, t-tests comparing burned to unburned plots to one another verify that burned plots had a greater percentage of bare ground (t=6.6, p<0.001) and decreased percentage of litter (t=-4.3, p<0.001) compared to unburned plots.

Seed viability estimates from germination trial and stratification protocol

Scarification and stratification procedures were based on recommendations from the native seed nursery and corroborated by Baskin & Baskin (*Seeds*, 2nd edition, 2014). The procedure for each species was as follows. Prior to stratification, *Baptisia* seeds were scarified by rubbing vigorously with medium grade sandpaper. Both *Solidago* species were stratified for two months. *Amorpha, Lespedeza,* and *Baptisia* seeds were stratified for two weeks. All stratification treatment were cold, moist stratification in which 100 seeds of each species were placed in a Ziploc bag with moist vermiculite, and stored in the refrigerator. No stratification or scarification was recommended for *Dalea* or *Desmodium*; these species were stored in cool, dry conditions until their planting/germination trial.

A germination trial was performed following stratification and scarification treatments to determine the viability rates of each species. Two sterilized petri dishes containing twenty-five seeds of a single species on moist blotter paper were placed on a countertop near a window. We watered the petri dishes and checked for germination daily, and removed seeds from the dish upon germination. The germination trial lasted two weeks, after which we assumed the remaining seeds were nonviable. The estimated viability rates from this germination trial were used to inform our experimental seed addition rate, to ensure that we were achieving our target of 80 viable seeds sown across all species and plots.

Table S1. Results from the germination trial for each experimental species.

Species name	**Viability rate**	**Seeding rate (#/plot)**
Dalea candida	0.72	111
Dalea purpurea	0.62	129
Solidago nemoralis	0.42	192
Solidago rigida	0.27	297
Lespedeza capitata	0.14	571
Desmodium canadense	0.64	125
Amorpha canescens	0.80	101
Baptisia alba	0.50	160