**Table S1** Abundance (total and maximum) and frequency (% of samples) of species emerging from soil seed-bank samples (20 × 20 × 1 cm) collected in fuel control and fuel-addition plots in an upland longleaf pine savanna in southeastern Louisiana, USA (N = 30 samples per treatment).

**Species Functional Group Number of germinating plants**

**Control-fuel Increased-fuel**

**Total Max. Freq. Total Max. Freq.**

*Acalypha gracilens* Forb 6 3 10 2 1 6

*Dicanthelium ovale* C3 Grass 19 4 30 7 2 20

*D. sphaerocarpon* C3 Grass 2 2 3 0 0 0

*D. strigosum* C3 Grass 12 7 10 12 3 20

*D. dichotomum* var. *tenue* C3 Grass 113 13 66 26 3 43

*Drosera brevifolia* Forb 175 154 20 2 1 6

*Eupatorium capillifolium* Forb 0 0 0 1 1 3

*E. rotundifolium* Forb 49 20 30 7 3 13

*E. semiserratum* Forb 1 1 3 0 0 0

*Phyllanthus caroliniensis* Forb 47 12 40 20 9 23

*Tephrosia spicata* Legume 1 1 3 0 0 0

**Unidentified plants**†

Graminoid – 445 63 100 104 16 96

Forb – 484 123 100 140 30 100

†Plants died while still too small to identify

**Table S2** Results of mixed effects modeling of soil heating

**Source of Variation: NDF DDF F P**

**Fixed effects on soil heating**

Fuel treatment 2 45 16.3 <0.001

Fire-logger position 4 58 223 <0.001

Fuel treatment × fire-logger position 8 58 3.32 0.003

NDF = numerator degrees of freedom; DDF = denominator degrees of freedom.



**Figure S1**. Bivariate regressions of the relationships between soil heating at 3 different depths and fire temperature or duration at the soil surface on log-log scales. We incorporated these relationships into structural equation models. Black lines are best-fit lines; gray areas encasing lines are 1SE envelopes.



**Figure S2** Comparison of frequency across quadrats of species found in increased-fuels compared to control-fuels during the growing season after burning.