

Supplementary Table 1. Mean (\pm standard error) *in situ* water filled pore space (WFPS %) and soil temperature ($^{\circ}$ C) as determined during the growing season (Mar to Sept) of 2012 (14 sample dates). Different letters within a column indicate significant differences ($P<0.05$) among landscape positions by Tukey's test. When averaged across landscape positions there was no significant treatment effect ($P>0.05$) for WFPS. Note WFPS increased downslope in PFS, but decreased downslope in Corn. When averaged across landscape, different letters within a row indicate significant effect for soil temperature ($P<0.01$). Perennial Filter Strip (PFS), 100% annual rowcrop (CORN), and Restored Native Grassland (RNG) are abbreviated.

Property	Landscape Position	PFS	CORN	RNG
WFPS				
	Upslope	47.99 \pm 3.16 c	58.08 \pm 2.32 a	55.58 \pm 3.74 a
	Sideslope	52.46 \pm 2.61 bc	58.26 \pm 2.18 a	53.85 \pm 3.65 a
	Downslope	57.76 \pm 3.30 ab	51.57 \pm 2.45 b	53.97 \pm 3.31 a
	Toeslope	59.17 \pm 3.11 a	52.85 \pm 3.05 b	51.32 \pm 2.82 a
	Average WFPS	54.34 \pm 1.55	55.19 \pm 1.27	53.68 \pm 1.68
Soil temperature				
	Upslope	17.46 \pm 0.78	17.96 \pm 0.79	17.92 \pm 0.88
	Sideslope	16.93 \pm 0.81	18.11 \pm 0.84	18.07 \pm 0.93
	Downslope	16.93 \pm 0.72	18.38 \pm 0.82	17.70 \pm 0.85
	Toeslope	16.67 \pm 0.74	17.99 \pm 0.82	17.21 \pm 0.96
	Average soil temperature	17.00 \pm 0.39 b	18.11 \pm 0.40 a	17.73 \pm 0.45 ab