

Document: Supplemental File 4 – Reducing light did not always correspond to a decrease in soil CO₂ emissions

Article Title: Maize and prairie root contributions to soil CO₂ emissions in the field

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When soil CO₂ emissions were graphed against percent available light, the slope of the line represented the direction and magnitude of the soil flux response to shading (Figure 1 of manuscript); a large positive slope indicated more light corresponded to a large increase in soil fluxes, while a large negative value indicated more light resulted in a major decrease in soil fluxes (**Figure SF4.1**).

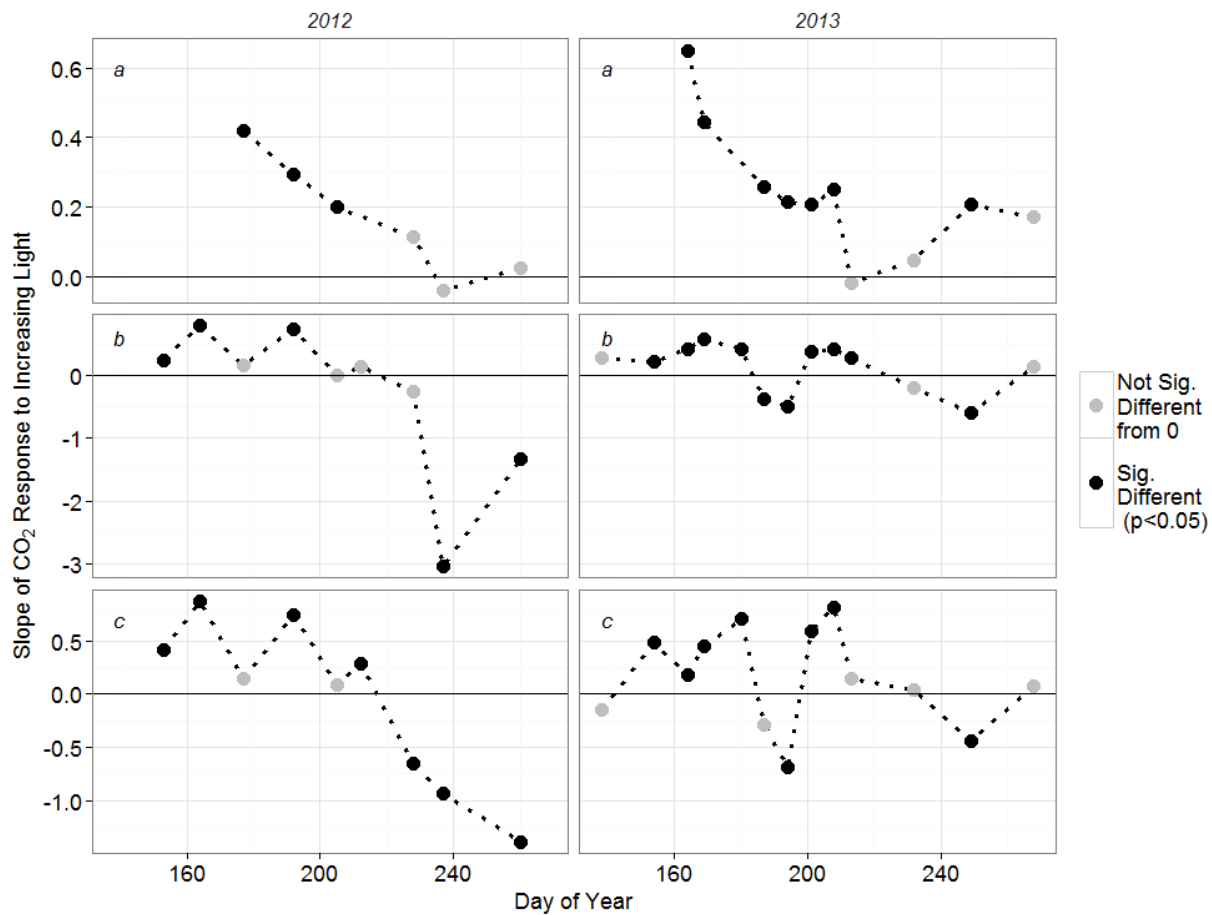


Fig SF4.1 Magnitude and direction of CO₂ flux response to increasing available light versus day of year for 2012 and 2013 in *a* - continuous maize (CC), *b* - unfertilized prairie (P), and *c* - fertilized prairie (PF); negative values signify CO₂ fluxes decreased with increasing ambient light; note different y-axis scales for each cropping system; dashed jointed trend line is meant to aid in visual interpretation only

CC never exhibited significantly negative slopes while the prairies did, particularly in the drought year of 2012. Of the 60 samplings, 30 were significantly positive, 10 were significantly negative, and 20 were not significantly different from zero. Of the significantly positive slopes, 29 of the 30 occurred before August 1 (DOY 214).