



sensitivity of a drought-tolerant  $C_4$  grass was lower than expected compared with a  $C_3$  grass at a given  $g_{\text{ref}}$  (Maherali *et al.* 2003), but the sensitivity among 2- $C_3$  and 2- $C_4$

collected from Konza Prairie Biological Station (KPBS; Manhattan, KS, USA) during May and June 2010, as grass tillers emerged from the soil and could be identified. Rhizomes were

ensure no air bubbles were coming from the end of the leaf

correlated with the magnitude of  $g_{\max}$  relative to leaf hydraulic capacity ( $g_{\max}/K_{\text{leaf}}$ , Fig. 2b). Plants with high  $g_{\text{wv}}$  relative to their ability to conduct water were more sensitive to increases in  $D$  ( $r^2 = 0.35$ ,  $P = 0.008$ ).

The variability in  $g_{\text{ref}}$  was negatively correlated with the total plant LA ( $\text{m}^2$ ) of the species measured (Fig. 3a). The relationship between LA and  $g_{\text{ref}}$  was identical between  $\text{C}_3$  and  $\text{C}_4$  species ( $P = 0.2$ ), although  $g_{\text{ref}}$

assimilation strategies of plants. The variability in stomatal sensitivity is related to the hydraulic conductance of leaves among eudicot leaves (Brodrribb & Jordan 2008), but little

to an 'apparent feedforward' response (Monteith 1995) because it did not always meet the requirements of a true feedforward mechanism (Franks, Cowan & Farquhar 1997).

