

Table 1. (traits review)

trait	symbol	units	response	forest type(s)	reference(s)
leaf mass per area (or inverse of specific leaf area)	$LMA$ (or $1/SLA$ )	$g/cm^2$	increases with height  sun>shade	temperate, tropical  global	Mau et al. 2018, Coble et al. 2017  Hernandez et al. 2019, Mastubara et al. 2009, Martin et. al 2020, Coble et al. 2017, Slot et al. 2019
leaf nitrogen	$N_{leaf}$	$mg/g$  $g/m^2$	sun<shade sun $\approx$ shade sun>shade	 temperate broadleaf tropical	Martin et. al 2020 Bolstad et al. 2019 Hernandez et al. 2019

Table 2. (metabolism review)

trait	symbol	units	response	forest type(s)	reference(s)
<b>Stomatal conductance</b>					
stomatal conductance	$g_s$		sun > shade	tropical	Slot et al. 2019
optimum temperature of $g_s$	$T_{opt}$ of $g_s$	°C	sun $\approx$ shade	tropical	Slot et al. 2019
frequency of stomatal closure			increases with height	tropical	Roberts et al. 1990
<b>Photosynthesis</b>					
light-saturated net photosynthesis	$A_{sat}$		sun > shade	tropical	Slot et al. 2019
optimum temperature of $A_{sat}$	$T_{opt}$ of $A_{sat}$	°C	sun $\geq$ shade	tropical	Slot et al. 2019
thermal damage threshold	$T_{50}$	°C	sun $\geq$ shade	tropical	Slot et al. 2019
			decreases with height*	savanna	Curtis et. al, 2018
light compensation point	$LCP$		sun > shade	tropical	Slot et al. 2019
<b>Respiration</b>					
dark respiration at reference T	$R_{dark}(T_{ref})$		sun > shade	tropical	Slot et al. 2019
			sun > shade	temperate	Bolstad et al. 1999
dark respiration	$R_{dark}$		sun > shade	temperate	Bolstad et al. 1999
temperature sensitivity of $R_{dark}$	$Q_{10}$		sun $\geq$ shade	temperate	Bolstad et al. 1999

\*composite climatic stress variable from canopy temperature, vapour pressure deficit, and relative humidity is higher in lower canopy