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| trait  Table 1. Summary of observed variation in thermally-relevant leaf traits with canopy height and/or between sun and shade leaves | 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 | ↑ with height | TeB, TrB, BoN | Coble and Cavaleri 2014, Mau et al. 2018, Sack et al. 2006, Chin and Sillett 2019 |
|  |  |  | ↑ with light | TeB, TrB, BoN | Coble and Cavaleri 2014, Mau et al. 2018, Sack et al. 2006, Wyka et al. 2012 |
| leaf density |  | g cm-3 | ↑ with height | TeB | Coble and Cavaleri 2014 |
|  |  |  | ↑ with light | TeB, TrB | Coble and Cavaleri 2014, Marques et al. 2000 |
|  |  |  | ≈ with light | BoN | Wyka et al. 2012 |
| leaf area | *LA* | cm2 | ↓ with height | TeB, TrB, BoN | Kusi and Karasi 2020, Cavaleri et al. 2010, Kenzo et al. 2016, Gebauer et al. 2015 |
|  |  |  | ↓ with light | TrB, TeB, BoN | Kusi and Karasi, 2020, Sack et al. 2006, Gebauer et al. 2015 |
| stomatal density | *Dstomata* | mm-2 | ↑ with height | TrB, TeB, BoN | Marenco et al. 2017, Kafuti et al. 2020, Van Wittenberghe et al. 2012, Sack et al. 2006, Chin and Silette 2017 |
|  |  |  | ↑ with light | TeB, TrB | Sack et al. 2006, Kafuti et al. 2020, Marenco et al. 2017 |
| minor vein density | *VLAmin* | mm mm-2 | ↑ with height | TeB | Zhang et al. 2019 |
|  |  |  | ↑ with light | TeB | Zhang et al. 2019 |
| leaf thickness |  | µm | ↑ with height | TrB, TeB, BoN | Weerasinghe et al. 2014,Coble and Cavaleri 2014, Van Wittenberghe et al. 2012, Oldham et al. 2010, Marenco et al. 2017 |
|  |  |  | ↑ with light | TeB, BoN, TrB | Coble and Cavaleri 2014, Wyka et al. 2012, Marenco et al. 2016, Weerasinghe et al. 2014 |
| trichome density |  | mm-2 | ↑ with height | TrB | Ichie et al. 2016 |
|  |  |  | ↑ with light | TeB, TrB | Gregoriou et al. 2007, Ichie et al. 2016, Levizou et al. 2005, Liakoura 1997 |
| blade inclination angle (vertical) | *φB* | ˚ | ↑ with height | TeB, TrB | Niinemets et al. 1998, Ishida et al. 1998, Fauset et al. 2018 |
|  |  |  | ↑ with light | TeB, TrB | Millen and Clendon 1979, Ishida et al. 1998, Niinemets et al. 1998, Fauset et al. 2018 |
| pinnate lobation |  | cm2 | ↑ with height | TeB | Sack et al. 2006 |
|  |  |  | ↓ with height | TeB | Kusi and Karasi, 2020 |
|  |  |  | ↑ with light | TeB | Kusi and Karasi 2020, Sack et al. 2006 |
| drip tip length |  | cm | ↓ with height | TrB | Panditharathna et al. 2008 |
|  |  |  | ↓ with light | TrB | Panditharatna et al. 2008 |
| upper cuticle thickness | *CT* | µm | ↑ with height | TrB, BoN | Panditharathna et al. 2008, Chin and Sillett 2019 |
|  |  |  | ↑ with light | TrB, TeB | Panditharathna et al. 2008, Marques et al. 2000, Baltzer and Thomas 2005 |
| adaxial leaf wettability (as drop contact angle) | *DCAad* | ˚ | ↑ with height | TeB | Van Wittenberghe et al. 2012 |
|  | *duration of surface wetness* | % | ↓ with height | TrB | Dietz et al. 2007 |
|  | *DCA* | ˚ | ↑ with light | TeB | Van Wittenberghe et al. 2012 |
|  |  |  | ↑ with height | TrB, TeB, BoN | Kenzo et al. 2015, Coble et al. 2016, Scartazza et al. 2016, Duursma and Marshall, 2006, Harley et al. 1996 |
| nitrogen content | *Na* | g m-2 | ≈↑ with light | TrB, TeB, BoN | Weerasinghe et al. 2014, Hernandez et al. 2020, Scartazza et al. 2016, Coble et al. 2016, Harley et al. 1996, Duursma and Marshall, 2006. |
|  |  |  | ≈↓ with height | TrB, TeB, BoN | Weerasinghe et al. 2014, Kenzo et al. 2015, Coble et al. 2016, Scartazza et al. 2016, Harley et al. 1996, Turnbull et al. 2003 |
|  | Nm | mg g-1 | ≈↓ with light | TrB, TeB, BoN | Chen et al. 2020, Kenzo et al. 2015, Coble et al. 2016, Scartazza et al. 2016, Harley et al. 1996, Wyka et al. 2012 |
|  |  |  | ↑ with height | TrB, TeB, BoN | Weerasinghe et al. 2014,van de Weg et al. 2012, M.A Cavaleri et al. 2008, Mau et al. 2018 |
| Phosphorous content | Pa | g m-2 | ↑ with light | TrB, Te, BoN | Weerasinghe et al. 2014, Wyka et al. 2012 |
|  |  |  | ≈↓ with height | TrB | Weerasinghe et al. 2014, Chen et al. 2020, Mau et al. 2018 |
|  | Pm | mg g-1 | ≈ with light | TrB, TeB | Weerasinghe et al. 2014, Chen et al. 2020, Mau et al. 2018 |
|  |  |  | ↑ with height | TrB, TeB | Koniger et al. 1995, Scartazza et al. 2016, Niinemets et al. 1998 |
| xanthophyll cycle pigments | *VAZ* | µmol m-2 | ↑ with light | TeB, TrB | Scartazza et al. 2016, Mastubara et al. 2009 |
|  |  |  | ↓ with height | TrB, TeB | Harris and Medina 2013, Hansen et al. 2001 |
| chlorophyll content | *chl* | mg cm-2 | ↓ with light | TrB, TeB | Marques et al. 2000, Poorter et al. 1995, Hansen et al. 2001 |
|  |  |  | ↑ with height | TeB, TrB | Scartazza et al. 2016, Poorter et al. 1995 |
| β-carotene and lutein |  | µmol m-2 | ↑ with light | TeB, TrB | Scartazza et al. 2016, Koniger et al. 1995 |
|  |  |  | ↑ with height | TeB, TrB | Scartazza et al. 2016, Poorter et al. 1995 |
| chlorophyll a/b ratio | *chl a/b* | molmol-1 | ↑ with light | TeB, TrB | Scartazza et al. 2016, Poorter et al. 1995, Matsubara et al. 2009, Niinemets et al. 1998 |
|  |  |  | ↑ with height | BoN, TeB, TrB | Duursma and Marshall, 2006, Coble et al. 2017, Kenzo et al. 2015 |
| carbon isotope composition | *δ13C* | ‰ | ↑ with light | BoN, TeB, TrB | Duursma and Marshall, 2006, Coble et al. 2016, Kenzo et al. 2015 |
|  |  |  | ↓ with height | TeB | Scartazza et al. 2016 |
| Intercellular CO2 concentration | *Ci* | µmolmol-1 | ↓ with light | TeB | Scartazza et al. 2016 |
|  |  |  | ≈ with height | TrB | Poorter et al. 1995, 2000 |
| PAR absorptance | *ABS* | % nm | ≈↑ with light | TrB | Poorter et al. 1995, 2000 |
|  |  |  | ↓ with height | TrB | Poorter et al. 1995, 2000 |
| absorptance efficiency | *ABS* | % g-1 | ↓ with light | TrB | Poorter et al. 1995, 2000 |
|  |  |  | ↓ with height | TrB | Poorter et al. 1995, 2000 |
| PAR transmittance |  | % | ↓ with light | TrB | Poorter et al. 1995, 2000 |
|  |  |  | ≈ with height | TrB | Poorter et al. 1995, 2000 |
| reflectance |  | % | ≈ with light | TrB | Poorter et al. 1995, 2000 |