**Carbon  demand  of  mistletoe, implementation and parameterization**  
The  potential  mistletoe-produced NPP was calculated after Haxeltine and Prentice (1996a), as the model’s prediction for trees (for NPP parameter selection, see Table S1). Mistletoe heterotrophically derives carbon from the host. Hence, we implemented a reduction of the infected tree cohort’s NPP by an average value of 30% (Pfiz, 2006; Richter and Popp, 1992) of the theoretically mistletoe-produced NPP.

Table S1. Parameters and its values set for mistletoe in the photosynthesis model of 4C.1

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Value** | **Unit** | **Description** |
| Φc | 1 |  | Efficiency parameter |
| Kco2\_25 | 30 | Pa | Michaelis constant CO2 |
| Ko2\_25 | 30 | kPa | Inhibition constant O2 |
| Pc\_25 | 3400 |  | CO2/O2 specificity ratio |
| Q10\_kco2 | 2.1 |  | Rel. change in Kco2\_25 for 10 K temperature change |
| Q10\_ko2 | 1.2 |  | Rel. change in Ko2\_25 for 10 K temperature change |
| Q10\_pc | 0.57 |  | Rel. change in Pc\_25 for 10 K temperature change |
| pb | 0.015 |  | Rd/Vm ratio (leaf respiration/maximum catalytic capacity of Rubisco per unit leaf area) |
| λMC3 | 0.7 |  | Optimal ci/ca for C3 plants |
| ca | 390 | μmol mol-1 | Ambient mol fraction CO2 |

1 After:Haxeltine and Prentice (1996b)

**References**

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