# Appendix 1.11 Tree/Forest parameters (tree.100)

These tree.100 parameters are read for the initial tree specified in the schedule file header, and for each subsequent tree introduced in the schedule file with a TREE event.

|  |  |  |  |
| --- | --- | --- | --- |
| DECID | = 0 if forest is evergreen  = 1 if forest is deciduous  = 2 if forest is drought deciduous | index | 0, 1, 2 |
| PRDX(2) | Coefficient for calculating total monthly potential production as a function of solar radiation outside the atmosphere. It functions as a radiation use efficiency scalar on potential production. It reflects the relative genetic potential of the plant; larger PRDX(2) values indicate greater growth potential. | scaling factor,  (gC production)  \*m‑2  \*month‑1  \*Langley‑1 | 0.1 – 5.0 |
| PPDF(1) | Optimum temperature for production for parameterization of a Poisson Density Function curve to simulate temperature effect on growth | ºC | 10.0 – 40.0 |
| PPDF(2) | Maximum temperature for production for parameterization of a Poisson Density Function curve to simulate temperature effect on growth | ºC | 20.0 – 50.0 |
| PPDF(3) | left curve shape for parameterization of a Poisson Density Function curve to simulate temperature effect on growth |  | 0.0 – 1.0 |
| PPDF(4) | right curve shape for parameterization of a Poisson Density Function curve to simulate temperature effect on growth |  | 0.0 – 10.0 |
| **CERFOR(1,\*,\*)** | ***minimum* C/E ratio for forest compartments** |  |  |
| CERFOR(1,1,1) | (1,1,1) = minimum C/N, leaf | C/N ratio | 1.0 – 200.0 |
| CERFOR(1,1,2) | (1,1,2) = minimum C/P, leaf | C/P ratio | 1.0 – 9999.0 |
| CERFOR(1,1,3) | (1,1,3) = minimum C/S, leaf | C/S ratio | 1.0 – 9999.0 |
| CERFOR(1,2,1) | (1,2,1) = minimum C/N, fine root | C/N ratio | 1.0 – 200.0 |
| CERFOR(1,2,2) | (1,2,2) = minimum C/P, fine root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(1,2,3) | (1,2,3) = minimum C/S, fine root | C/S ratio | 1.0 – 9999.0 |
| CERFOR(1,3,1) | (1,3,1) = minimum C/N, fine branch | C/N ratio | 1.0 – 1000.0 |
| CERFOR(1,3,2) | (1,3,2) = minimum C/P, fine branch | C/P ratio | 1.0 – 9999.0 |
| CERFOR(1,3,3) | (1,3,3) = minimum C/S, fine branch | C/S ratio | 1.0 – 9999.0 |
| CERFOR(1,4,1) | (1,4,1) = minimum C/N, large wood | C/N ratio | 1.0 – 1500.0 |
| CERFOR(1,4,2) | (1,4,2) = minimum C/P, large wood | C/P ratio | 1.0 – 9999.0 |
| CERFOR(1,4,3) | (1,4,3) = minimum C/S, large wood | C/S ratio | 1.0 – 9999.0 |
| CERFOR(1,5,1) | (1,5,1) = minimum C/N, coarse root | C/N ratio | 1.0 – 1500.0 |
| CERFOR(1,5,2) | (1,5,2) = minimum C/P, coarse root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(1,5,3) | (1,5,3) = minimum C/S, coarse root | C/S ratio | 1.0 – 9999.0 |
| **CERFOR(2,\*,\*)** | ***maximum* C/E ratio for forest compartments** |  |  |
| CERFOR(2,1,1) | (2,1,1) = maximum C/N, leaf | C/N ratio | 1.0 – 200.0 |
| CERFOR(2,1,2) | (2,1,2) = maximum C/P, leaf | C/P ratio | 1.0 – 9999.0 |
| CERFOR(2,1,3) | (2,1,3) = maximum C/S, leaf | C/S ratio | 1.0 – 9999.0 |
| CERFOR(2,2,1) | (2,2,1) = maximum C/N, fine root | C/N ratio | 1.0 – 200.0 |
| CERFOR(2,2,2) | (2,2,2) = maximum C/P, fine root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(2,2,3) | (2,2,3) = maximum C/S, fine root | C/S ratio | 1.0 – 9999.0 |
| CERFOR(2,3,1) | (2,3,1) = maximum C/N, fine branch | C/N ratio | 1.0 – 1000.0 |
| CERFOR(2,3,2) | (2,3,2) = maximum C/P, fine branch | C/P ratio | 1.0 – 9999.0 |
| CERFOR(2,3,3) | (2,3,3) = maximum C/S, fine branch | C/S ratio | 1.0 – 9999.0 |
| CERFOR(2,4,1) | (2,4,1) = maximum C/N, large wood | C/N ratio | 1.0 – 1500.0 |
| CERFOR(2,4,2) | (2,4,2) = maximum C/P, large wood | C/P ratio | 1.0 – 9999.0 |
| CERFOR(2,4,3) | (2,4,3) = maximum C/S, large wood | C/S ratio | 1.0 – 9999.0 |
| CERFOR(2,5,1) | (2,5,1) = maximum C/N, coarse root | C/N ratio | 1.0 – 1500.0 |
| CERFOR(2,5,2) | (2,5,2) = maximum C/P, coarse root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(2,5,3) | (2,5,3) = maximum C/S, coarse root | C/S ratio | 1.0 – 9999.0 |
| **CERFOR(3,\*,\*)** | ***initial* C/E ratio for forest compartments** |  |  |
| CERFOR(3,1,1) | (3,1,1) = initial C/N, leaf | C/N ratio | 1.0 – 200.0 |
| CERFOR(3,1,2) | (3,1,2) = initial C/P, leaf | C/P ratio | 1.0 – 9999.0 |
| CERFOR(3,1,3) | (3,1,3) = initial C/S, leaf | C/S ratio | 1.0 – 9999.0 |
| CERFOR(3,2,1) | (3,2,1) = initial C/N, fine root | C/N ratio | 1.0 – 200.0 |
| CERFOR(3,2,2) | (3,2,2) = initial C/P, fine root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(3,2,3) | (3,2,3) = initial C/S, fine root | C/S ratio | 1.0 – 9999.0 |
| CERFOR(3,3,1) | (3,3,1) = initial C/N, fine branch | C/N ratio | 1.0 – 1000.0 |
| CERFOR(3,3,2) | (3,3,2) = initial C/P, fine branch | C/P ratio | 1.0 – 9999.0 |
| CERFOR(3,3,3) | (3,3,3) = initial C/S, fine branch | C/S ratio | 1.0 – 9999.0 |
| CERFOR(3,4,1) | (3,4,1) = initial C/N, large wood | C/N ratio | 1.0 – 1500.0 |
| CERFOR(3,4,2) | (3,4,2) = initial C/P, large wood | C/P ratio | 1.0 – 9999.0 |
| CERFOR(3,4,3) | (3,4,3) = initial C/S, large wood | C/S ratio | 1.0 – 9999.0 |
| CERFOR(3,5,1) | (3,5,1) = initial C/N, coarse root | C/N ratio | 1.0 – 1500.0 |
| CERFOR(3,5,2) | (3,5,2) = initial C/P, coarse root | C/P ratio | 1.0 – 9999.0 |
| CERFOR(3,5,3) | (3,5,3) = initial C/S, coarse root | C/S ratio | 1.0 – 9999.0 |
| DECW1 | Maximum decomposition rate constant for wood1 (dead fine branch) per year before temperature and moisture and pH effects are applied. (See woodec.f) | yr-1 | 0.0 – 5.0 |
| DECW2 | Maximum decomposition rate constant for wood2 (dead large wood) per year before temperature and moisture and pH effects are applied. (See woodec.f) | yr-1 | 0.0 – 5.0 |
| DECW3 | Maximum decomposition rate constant for wood3 (dead coarse root) per year before temperature and moisture and pH effects are applied. (See woodec.f) | yr-1 | 0.0 – 5.0 |
| DECW4 | Maximum decomposition rate constant for attached dead fine branches per year before temperature and moisture effects (same as soil surface) are applied. (See woodec.f) | yr-1 | 0.0 – 5.0 |
| DECW5 | Maximum decomposition rate constant for standing dead large wood per year before temperature and moisture effects (same as soil surface) are applied. (See woodec.f) | yr-1 | 0.0 – 5.0 |
| DLVFALRT | Fall rate of dead attached leaves (fraction per month, in absence of disturbance). | fraction per month | 0.0 – 1.0 |
| DFBFALRT | Fall rate of dead attached branches (fraction per month, in absence of disturbance). | fraction per month | 0.0 – 1.0 |
| DLWFALRT | Fall rate of standing dead large wood (fraction per month, in absence of disturbance). | fraction per month | 0.0 – 1.0 |
| **FCFRAC(\*,1)** | **C allocation fraction of new production for juvenile forest (time < swold).** \*\*Fractions of C allocated to woody parts are internally normalized to 1.0 after C allocation to leaves and fine roots occurs. |  |  |
| FCFRAC(1,1) | (1,1) = leaves  Obsolete parameter – C allocation to leaves is determine dynamically and is regulated by the amount of wood biomass that can support the leaf biomass. | fraction | 0.0 – 1.0 |
| FCFRAC(2,1) | (2,1) = fine roots  Obsolete parameter – C allocation to fine roots is determined dynamically according to soil nutrient and moisture status. See tfrtcn(\*) and tfrtcw(\*) parameters. | fraction | 0.0 – 1.0 |
| FCFRAC(3,1)\*\* | (3,1) = relative fraction of C allocated to fine branches | fraction | 0.0 – 1.0 |
| FCFRAC(4,1)\*\* | (4,1) = relative fraction of C allocated to large wood | fraction | 0.0 – 1.0 |
| FCFRAC(5,1)\*\* | (5,1) = relative fraction of C allocated to coarse roots | fraction | 0.0 – 1.0 |
| **FCFRAC(\*,2)** | **C allocation fraction of new production for mature forest (time ≥ swold).** \*\*Fractions of C allocated to woody parts are internally normalized to 1.0 after C allocation to leaves and fine roots occurs. |  |  |
| FCFRAC(1,2) | (1,2) = leaves  Obsolete parameter – C allocation to leaves is determine dynamically and is regulated by the amount of wood biomass that can support the leaf biomass. | fraction | 0.0 – 1.0 |
| FCFRAC(2,2) | (2,2) = fine roots  Obsolete parameter – C allocation to fine roots is determined dynamically according to soil nutrient and moisture status. See tfrtcn(\*) and tfrtcw(\*) parameters. | fraction | 0.0 – 1.0 |
| FCFRAC(3,2)\*\* | (3,2) = relative fraction of C allocated to fine branches | fraction | 0.0 – 1.0 |
| FCFRAC(4,2)\*\* | (4,2) = relative fraction of C allocated to large wood | fraction | 0.0 – 1.0 |
| FCFRAC(5,2)\*\* | (5,2) = relative fraction of C allocated to coarse roots | fraction | 0.0 – 1.0 |
| TFRTCN(1) | Maximum fraction of C allocated to fine roots under maximum nutrient stress. | fraction | 0.0 – 1.0 |
| TFRTCN(2) | Minimum fraction of C allocated to fine roots with no nutrient stress. | fraction | 0.0 – 1.0 |
| TFRTCW(1) | Maximum fraction of C allocated to fine roots under maximum water stress. | fraction | 0.0 – 1.0 |
| TFRTCW(2) | Minimum fraction of C allocated to fine roots with no water stress. | fraction | 0.0 – 1.0 |
| **LEAFDR(\*)** | ***Monthly* death rate fractions for leaves for each month 1-12** |  | **0.0 – 1.0** |
| LEAFDR(1) | Death rate fractions for leaves for January. | fraction | 0.0 – 1.0 |
| LEAFDR(2) | Death rate fractions for leaves for February. | fraction | 0.0 – 1.0 |
| LEAFDR(3) | Death rate fractions for leaves for March. | fraction | 0.0 – 1.0 |
| LEAFDR(4) | Death rate fractions for leaves for April. | fraction | 0.0 – 1.0 |
| LEAFDR(5) | Death rate fractions for leaves for May. | fraction | 0.0 – 1.0 |
| LEAFDR(6) | Death rate fractions for leaves for June. | fraction | 0.0 – 1.0 |
| LEAFDR(7) | Death rate fractions for leaves for July. | fraction | 0.0 – 1.0 |
| LEAFDR(8) | Death rate fractions for leaves for August. | fraction | 0.0 – 1.0 |
| LEAFDR(9) | Death rate fractions for leaves for September. | fraction | 0.0 – 1.0 |
| LEAFDR(10) | Death rate fractions for leaves for October. | fraction | 0.0 – 1.0 |
| LEAFDR(11) | Death rate fractions for leaves for November. | fraction | 0.0 – 1.0 |
| LEAFDR(12) | Death rate fractions for leaves for December. | fraction | 0.0 – 1.0 |
| BTOLAI | Biomass to leaf area index (LAI) conversion factor for trees. | units LAI / g biomass | Biome specific  0.001 – 0.02  (see below) |
| KLAI | Large wood mass at which half of theoretical maximum leaf area (***MAXLAI***) is achieved. | g C m-2 |  |
| LAITOP | Parameter determining the relationship between LAI and forest production: LAI effect = 1 - exp(***LAITOP*** \* LAI). |  |  |
| MAXLAI | Theoretical maximum leaf area index achieved in a mature forest. |  | 0.0 – 50.0 |
| MAXLDR | Multiplier for effect of N availability on leaf death rates (evergreen forest only); ratio between death rate at unlimited vs. severely limited N status. |  | 0.0 – 1.0 |
| FORRTF(1) | Fraction of N retranslocated from green forest leaves before litterfall | fraction | 0.0 – 1.0 |
| FORRTF(2) | Fraction of P retranslocated from green forest leaves before litterfall | fraction | 0.0 – 1.0 |
| FORRTF(3) | Fraction of S retranslocated from green forest leaves before litterfall |  |  |
| SAPK | controls the ratio of sapwood to total stem wood; it is equal to both the large wood mass (rlwodc) at which half of large wood is sapwood, and the theoretical maximum sapwood mass achieved in a mature forest. This parameter is no longer used in DayCent calculations but is needed as a placeholder in the tree.100 file. | g C m-2 | NO LONGER USED |
| SWOLD | Year at which to switch from juvenile to mature forest C allocation fractions for production | simulation year | Within the simulation period |
| WDLIG(1) | Lignin fraction of leaves | g lignin C/  g C | 0.0 – 1.0 |
| WDLIG(2) | Lignin fraction of juvenile fine roots. | g lignin C /  g C | 0.0 – 1.0 |
| WDLIG(3) | Lignin fraction of fine branches. (See woodec.f) | g lignin C /  g C | 0.0 – 1.0 |
| WDLIG(4) | Lignin fraction of large wood. (See woodec.f) | g lignin C /  g C | 0.0 – 1.0 |
| WDLIG(5) | Lignin fraction of coarse roots. (See woodec.f) | g lignin C /  g C | 0.0 – 1.0 |
| WDLIG(6) | Lignin fraction of mature fine roots. | g lignin C /  g C | 0.0 – 1.0 |
|  |  |  |  |
| **WOODDR(\*)** | ***Monthly* death rate fractions for forest components:** |  |  |
| WOODDR(1) | Controls the proportion of *leaves* that drop during senescence month or at the end of the growing season when ***DECID*** = 1 or 2. This is especially useful for drought-deciduous systems where only a portion of the leaves drop. Also useful when you are attempting to simulate a deciduous/coniferous mixed system of forest. | fraction | 0.0 – 1.0 |
| WOODDR(2) | juvenile fine roots | fraction | 0.0 – 1.0 |
| WOODDR(3) | fine branches | fraction | 0.0 – 1.0 |
| WOODDR(4) | large wood | fraction | 0.0 – 1.0 |
| WOODDR(5) | coarse roots | fraction | 0.0 – 1.0 |
| WOODDR(6) | mature fine roots | fraction | 0.0 – 1.0 |
| WRDSRFC | Fraction of the fine roots that are transferred into the surface litter layer (STRUCC(1) and METABC(1)) upon fine root death, the remainder of the roots will go to the soil litter layer (STRUCC(2) and METABC(2)) | fraction | 0.0 – 1.0 |
| WMRTFRAC | Fraction of fine root production that goes to mature roots | fraction | 0.0 – 1.0 |
| SNFXMX(2) | Maximum symbiotic N fixation for forest (actual symbiotic N fixation will be less if available mineral N is sufficient for growth) | g N fixed / g C net production | 0.0 – 1.0 |
| DEL13C | Delta 13C value for stable isotope labeling |  | -30.0 – 0.0 |
| CO2IPR(2) | In a forest system, the effect on plant production (ratio) of doubling the atmospheric CO2 concentration from 350 ppm to 700 ppm | scaling factor | 0.5 – 1.5 |
| CO2ITR(2) | In a forest system, the effect on transpiration rate (ratio) of doubling the atmospheric CO2 concentration from 350 ppm to 700 ppm | scaling factor | 0.5 – 1.5 |
| **CO2ICE(2,\*,\*)** | **In a forest system, the effect on C/E ratios of doubling the atmospheric CO2 concentration from 350 ppm to 700 ppm** |  |  |
| CO2ICE(2,1,1) | (2,1,1) = minimum C/N | scaling factor | 0.5 – 1.5 |
| CO2ICE(2,1,2) | (2,1,2) = minimum C/P | scaling factor | 0.5 – 1.5 |
| CO2ICE(2,1,3) | (2,1,3) = minimum C/S | scaling factor | 0.5 – 1.5 |
| CO2ICE(2,2,1) | (2,2,1) = maximum C/N | scaling factor | 0.5 – 1.5 |
| CO2ICE(2,2,2) | (2,2,2) = maximum C/P | scaling factor | 0.5 – 1.5 |
| CO2ICE(2,2,3) | (2,2,3) = maximum C/S | scaling factor | 0.5 – 1.5 |
| CO2IRS(2) | In a forest system, the effect on root‑shoot ratio of doubling the atmospheric CO2 concentration from 350 ppm to 700 ppm | scaling factor | 0.5 – 1.5 |
| BASFC2 | (savanna only) relates tree basal area to grass N fraction; higher value gives more N to trees; if not running savanna, set to 1.0 |  |  |
| BASFCT | (savanna only) ratio between basal area and wood biomass (cm2/g); it is equal to (form factor \* wood density \* tree height); if not running savanna, set to 1.0 |  | The equation for computing tree basal area has been changed therefore ***basfct***  is given a a default value of 1.0. |
| SITPOT | Site Potential multiplier. Savannas Only. Site Potential determines the relative competitiveness of grasses and trees for available mineral N; the larger the site potential, the greater the fraction of mineral N available to grasses as opposed to trees. Site potential is a dynamic function of average annual precipitation, and SITPOT is a multiplier of site potential. Increasing SITPOT increases the competitiveness of grasses, decreasing it increases the competitiveness of tress. A value of the 1.0 indicates no multiplicative effect. |  | 0.1 – 2.0  (1.0) |
| MAXNP |  | N:P ratio | currently not being used? |
| FKMRSPMX(1) | Maximum fraction of live leaf C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FKMRSPMX(2) | Maximum fraction of live juvenile fine root C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FKMRSPMX(3) | Maximum fraction of live fine branch C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FKMRSPMX(4) | Maximum fraction of live large wood C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FKMRSPMX(5) | Maximum fraction of live coarse root C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FKMRSPMX(6) | Maximum fraction of live mature fine root C that goes to maintenance respiration for trees | fraction | 0.0 – 1.0 |
| FMRSPLAI(1) | X1 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is less than  (FMRSPLAI (3) \* optimal leaf carbon) for a forest system |  |  |
| FMRSPLAI(2) | Y1 value for line function that decreases maintenance  respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is less than (FMRSPLAI (3) \* optimal leaf carbon) for a forest system |  |  |
| FMRSPLAI(3) | X2 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is less than (FMRSPLAI(3) \* optimal leaf carbon) for a forest system  OR  X1 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is between (FMRSPLAI (3) \* optimal leaf carbon) and (FMRSPLAI (5) \* optimal leaf carbon) for a forest system |  |  |
| FMRSPLAI(4) | Y2 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is less than (FMRSPLAI (3) \* optimal leaf carbon) for a forest system  OR  Y1 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is between (FMRSPLAI (3) \* optimal leaf carbon) and (FMRSPLAI (5) \* optimal leaf carbon) for a forest system |  |  |
| FMRSPLAI(5) | X2 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is between (FMRSPLAI (3) \* optimal leaf carbon) and (FMRSPLAI (5) \* optimal leaf carbon) for a forest system |  |  |
| FMRSPLAI(6) | Y2 value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is between (FMRSPLAI (3) \* optimal leaf carbon) and (FMRSPLAI (5) \* optimal leaf carbon) for a forest system  OR  Y value for line function that decreases maintenance respiration based on optimal leaf carbon when the amount of carbon in the carbohydrate storage pool is greater than (FMRSPLAI (5) \* optimal leaf carbon) for a forest system |  |  |
| FGRESP(1) | Maximum fraction of live leaf C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| FGRESP(2) | Maximum fraction of live juvenile fine root C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| FGRESP(3) | Maximum fraction of live fine branch C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| FGRESP(4) | Maximum fraction of live large wood C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| FGRESP(5) | Maximum fraction of live coarse root C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| FGRESP(6) | Maximum fraction of live mature fine root C that goes to growth respiration for trees | fraction | 0.0 – 1.0 |
| NO3PREF(2) | Nitrate preference. When both ammonium and nitrate are present, this is the fraction of N uptake that will come from nitrate (if possible). When this value is negative, ammonium and nitrate will be taken up in proportion to the amount available, which is the way DayCent has traditionally computed N uptake. | fraction | -1 or  0.0 – 1.0 |
| TLAYPG | number of soil layers used to determine water and mineral N, P, and S that are available for tree growth | Number of soil layers | 1 – 9 |
| TMIX | Annual rate that surface SOM2C that is mixed into (transferred to) soil SOM2C in a forest system | yr-1 | 0.0 – 1.0 |
| TMPLFF | Temperature at which leaf drop will occur in a deciduous tree type | ºC |  |
| TMPLFS | Temperature at which leaf out will occur in a deciduous tree type. | ºC |  |
| FURGDYS | Number of days of unrestricted wood growth in a deciduous forest system | number of days |  |
| FLSGRES | Deciduous forest late season growth restriction factor. |  |  |
| TMXTURN | Maximum turnover rate per month of juvenile fine roots to mature fine roots through aging | ? |  |
| WSCOEFF(2,1) | Water Stress Coefficient used to calculate the water stress multiplier on potential growth based on the relative water content of the wettest soil layer in the rooting zone (*maxrwcf, 0-1*). | See wscoeff.xlsx | 0.2 – 0.5 |
| WSCOEFF(2,2) | Water Stress Coefficient used to calculate the water stress multiplier on potential growth based on the relative water content of the wettest soil layer in the rooting zone. See comments above | See wscoeff.xlsx | 6.0 – 30.0 |
| PS2MRSP(2) | Fraction of photosynthesis that goes to maintenance  respiration. | fraction | 0.0 – 1.0 |
| SFAVAIL(2) | Fraction of N available per day to plants. Formerly FAVAIL(1) in fix.100. |  | 0.0 – 1.0 |
| TRPINDX | Flag to indicate the root priming effect to be simulated:  0 = no root priming  1 = total soil respiration (heterotrophic plus autotrophic)  2 = heterotrophic soil respiration only  3 = fine root production |  |  |
| TRPCMN | Minimum respiration or root production required for minimum effect on root priming. | g C m-2 day‑1 |  |
| TRPCMX | Maximum respiration or root production required for maximum effect on root priming. | g C m-2 day‑1 |  |
| TRPMNMUL | Multiplier for root priming effect on som2c(2) decomposition when respiration or root production equals the minimum value (TRPCMN) | multiplier |  |
| TRPMXMUL | Multiplier for root priming effect on som2c(2) decomposition when respiration or root production equals the maximum value (TRPCMX) | multiplier |  |
| AMAX(2) | Maximum net CO2 assimilation rate assuming maximum possible PAR, all intercepted, no temperature, water or vapor pressure deficit stress. | nmol CO2 g-1 (leaf biomass) sec-1 |  |
| AMAXFRAC(2) | Average daily maximum photosynthesis as a fraction of AMAX(2). | fraction | 0.0 – 1.0 |
| AMAXSCALAR1(2) | Multiplier used to adjust aMax based on growthDays1 days since germination. | scalar |  |
| AMAXSCALAR2(2) | Multiplier used to adjust aMax based on growthDays2 days since germination. | scalar | 0.8 – 1.6 |
| AMAXSCALAR3(2) | Multiplier used to adjust aMax based on growthDays3 days since germination. | scalar | 0.7 – 1.5 |
| AMAXSCALAR4(2) | Multiplier used to adjust aMax based on growthDays4 days since germination. | scalar | 0.3 – 0.8 |
| ATTENUATION(2) | Light attenuation coefficient. |  |  |
| BASEFOLRESPFRAC(2) | Basal foliage respiration rate, as percentage of maximum net photosynthesis rate. |  |  |
| CFRACLEAF(2) | factor for converting leaf biomass to carbon (leaf biomass \* cFracLeaf = leaf carbon). | g C / g biomass |  |
| DVPDEXP(2) | Exponential value in vapor pressure deficit effect on photosynthesis equation.  dVpd = dVpdSlope \* exp(vpd\*dVpdExp) |  |  |
| DVPDSLOPE(2) | Slope value in vapor pressure deficit effect on photosynthesis equation.  dVpd = dVpdSlope \* exp(vpd\*dVpdExp) |  |  |
| GROWTHDAYS1(2) | Number of days after germination to start using AMAXSCALAR1. | number of days |  |
| GROWTHDAYS2(2) | Number of days after germination to start using AMAXSCALAR2. | number of days |  |
| GROWTHDAYS3(2) | Number of days after germination to start using AMAXSCALAR3. | number of days |  |
| GROWTHDAYS4(2) | Number of days after germination to start using AMAXSCALAR4. | number of days |  |
| HALFSATPAR(2) | Photosynthetically active radiation (PAR) at which photosynthesis occurs at 1/2 of theoretical maximum. | Einsteins \* m-2 ground area \* day-1 |  |
| LEAFCSPWT(2) | Grams of carbon in a square meter of leaf area. | g C m-2 leaf area |  |
| PSNTMIN(2) | Minimum temperature at which net photosynthesis occurs. | ºC |  |
| PSNTOPT(2) | Optimal temperature at which net photosynthesis occurs. | ºC |  |
| FLODEFF(2) | Multiplier on potential tree production when soil in the rooting zone is saturated. The flood effect on potential production is 1.0 at field capacity (or drier) and is decreased/increased linearly as soil in the rooting zone becomes wetter. A value of 1.0 = no effect of flooding on potential production. To decrease potential production when soils are saturated, use a value < 1.0. FLODEFF(2)=0.0 ceases production when soils are saturated. To increase potential production when soils are saturated, use a value > 1.0. | fraction | 0.0 – 1.0 or 1.0 – 2.0 |