List of Changes since Version 2.05

(Last update: October 17, 2001)

1. Update TW_L (coefficient root conductivity). It is now differentiated between trees.
2. Tree canopy width is half a canopy (radius)
3. Apply new equation to calculate the effect of roots and plant potential on water uptake, now based on harmonic mean (TW_PotPhys)
4. Add polyphenol into the system
5. Remove bug in Water uptake (CW_m, CW_PotSuctHalf, (TW_m, TW_PotSuctHalf)
6. Update timber harvesting, killing tree and calculation on wood height.
7. Modify initial water. It is now relative to Field Capacity.
8. Inaccessible water is now directly calculated from Pedotransfer.
9. Update External organic input
10. Add rain intensity, with 2 options: constant or dynamic based on normal distribution.

Previous Update (in Version 2.05)

1. Bugs were removed in water uptake for situations with more than 1 type of tree.
2. Erosion/sedimentation sector was updated.
3. Option was introduced for trees that parasitize on roots of other trees or crops.
4. Set soil physical properties per soil layer (no longer per layer * zone) to solve a memory problem we had in the XLS link.
5. Added parameters governing incorporation of litter to SOM. They are now explicit.
6. Bugs were removed in option to kill trees.
7. Improved value for rate of decomposition and differentiate rate of decomposition for metabolic and
   structural pool between litter layer and SOM (Mc_kAct, Mc_kSlow, Mc_kPass, Mc_kMetab,
   Mc_kStruc, Mc2_Metab, Mc2_kStruc).
8. Improved fractal branching module in calculating stem diameter increment and litterfall event,
   including adding wood density as input parameter.
9. Added protection/constraint in immobilization occurence.
10. Improved rainfall module. Differentiate coefficient of variation parameter with rainfall type 2 and 3.
11. Removed harmless bug in calculating N concentration.
12. Relinked crop root parameters from library.
13. Prevented negative topsoil depths when using sloping land option.
14. Added option to kill trees more than once.
15. Added option to kill crops or weed through shading.
16. Moved Ca_DOYStart to 'run' menu.
17. Added 'rainfall multiplier' for simple modification of rainfall amounts.
18. Fixed a bug in tree root by zone.
19. Added options to initialize SOM, by (1) relative values of C organic to forest soil, (2) by a known   forest soil and simulated soil C organic.
20. Added option to add stone in layers of soil.
21. Added input interface for Slash&Burn graphical input parameters.
22. Repaired a bug in canopy width.
23. Changed effect of tree roots on nutrient mobilization (now it is roots without mychorrhiza).

24. Made response of crops to water stress more gradual by changing default CW_alpha.

Changes since Version 2.1
Last changes: 30 February 2002

1. Add grazing module
2. Update root type 2
3. Update mirroring in tree roots
4. Remove error in SOM Module (formula in flow Mn2_MetabMinF)
5. Add higher level option to include (or not) crop in the system
6. Add option for nutrient input to immobile mineral pool
7. Add temperature influence on crop growth

Changes since Version 2.2
Last changes: January 2004

1. Added indicators for trees of limitation by water, N or P
2. Added effect of soil texture to decomposition rate from slow to passive pool in SOM module.
3. Putting rain intensity factor to run on from uphill plot in lateral flow module.
4. Update Rose equation in soil erosion module and methods to calculate sedimentation. Link bulk density input to input from pedotransfer transfer calculation in layer 1 from excel file.
5. Produce soil balance (still in progress).
6. Modified rainfall intensity & infiltration time depending on slope & canopy interception in rainfall module.
7. Added tree phenology (still in progress)
8. Added fix value as an option for tree spesific root length and modified on tree spesific root length equation (Rt_TSRL) in tree root module.
9. Modified on tree stage equation, day of rain (julian day) equation.
10. For root type2, modified on tree root distribution shape and its relative change equation, tree root decrease with depth and its relative change in tree root module.
11. Added the role of root channel on the dynamic of soil structure.
12. Added the role of soil organic matter on the soil biological activity (earthworm) later effect on the dynamic of soil structure.
13. Modify T_Stage.
14. Refine T_PrunHarvRemain.
15. Added Subsurface inflow in layer 4 in lateral flow module.
16. Refine T_GrowResLoss.
17. Modified T_FruitInc.
18. Added new parameter (T_FruitAllocStage) that determine how much fruit will produce from maximum fruit allocation as a function of tree stage, also to modified T_CanBiom.
19. Added new parameter (T_GenLitStage, T_GenLitFracMax) that determine how many fruit will drop later effect on SOM module.
20. Refine W_T3Upt4.
21. Refine Rt_TLrvL1...4 for spesies 2.
22. Modified T_Stage (Added T_StageAftPrun).
23. Modified T_PrunFruit (Added T_PrunFrac).
24. Updated light capture module.
25. Modified T_LAICropZone.
26. Modified on tree growth module on FBA part, stem diameter for calculation of litterfall target depending on T_LeafTwig while stem diameter for calculation of leaftwig target depending on T_BiomAG (summation of T_LeafTwig, T_Wood and T_GroRes).
27. Refine Rt_CLraDyn.
28. Add new parasitism Loranthus (still in progress).
29. Debug Light Module (L Mid1 and L Mid2).

30. Refine E_SedConcinRunOff and E_ErosRose in erosion and sedimentation module.
31. Modified equation on Rain_Interception.
32. Modified Soil Structure Dynamic module (the dynamic of soil structure now depend on the S_BDBDRefDecay).
33. Link texture (Clay and Silt) affecting decomposition of soil organic matter to the clay and silt for initial value for pedotransfer.
34. Modified on tree water module, added root resistance factor as a function of root distance to the stem later effect on tree root water uptake.
35. Modified on light module.