***Authors Response to Interactive comments on* "Shallow water table effects on water, sediment and pesticide transport in vegetative filter strips: Part A. non-uniform infiltration and soil water redistribution"** *by* **Rafael Munoz-Carpena et al.**

RC2- S. Reichenberger (Referee)
Thank you very much for the careful review and edits to the initial submission. Below we address the main comments raised on the initial submission. Please note that we uploaded the revised manuscript as a supplement to RC1 response comments, with your suggested changes also there. [comment #; AR-#: Authors response to comment #).

1. p2, l. 48: The citation "Ohlingerlow and Schulza" seems misspelled, and the reference does not appear in the reference list. Maybe it should read "Ohliger and Schulz"?

> AR-1. Corrected and reference added: Ohliger R. and R. Schulz. 2010. Water body and riparian buffer strip characteristics in a vineyard area to support aquatic pesticide exposure assessment. Science of The Total Environment 408(22):5405-13. DOI: 10.1016/j.scitotenv.2010.08.025

2. p. 2, l. 49 and following occasions: The term "bottomland" is not known to me. It seems to be a U.S. expression. Is it synonymous to "floodplain"?

> AR-2. Changed to "floodplain"

3. p. 2, l. 57: "hydric soils": hydromorphic soils? waterlogged soils?

> AR-3. Changed to "hydromorphic"

4. p. 3, l. 92: "soil depth (z) above the WT": In fact, z is just the vertical coordinate, isn't it? Fig. 1 a) and eq. 1 suggest that z is positive downward, but for sake of clarity, it should be stated explicitly whether z is defined as positive downward or positive upward.

> AR-4. Yes, corrected as "soil depth (z, [L], positive downwards from the surface)"

5. p. 3, l. 95: "L is depth to the WT (i.e. the distance from the surface)": Maybe this could be rephrased more clearly? The phrase is slightly confusing because L is also used as an integration boundary. Maybe "L is the depth of the permanent water table below the soil surface (z = 0)"?

> AR-5. Yes, corrected as "L [L] is the depth of the fixed water table below the soil surface (i.e. the distance from the surface)".

6. p. 3, l. 97: "Bouwer (1969) expression": I guess it should read "Bouwer's"?

> AR-6. Yes, corrected

7. p. 4, l. 115 and other occasions of "et al.": "Vachaud et al., (1974)": should be "Vachaud et al. (1974)" without the comma

> AR-7. Yes, corrected

8. p. 6, l. 157: "w and b are the width and length of the VFS surface area": Given that VFS length and width are often confused, it should be clearly stated which is the flow direction: Maybe "w and b are the width (VFS dimension perpendicular to the flow) and length (VFS dimension in flow direction) of the VFS surface area"?

AR-8. Yes, corrected as suggested

9. p. 7, l. 176-178: Can you explain more clearly why the shift time t0 is needed? And what would be the physical interpretation of t0?

AR-9. As proposed by Mein and Larson (1973), t_o is the graphical translation needed to ensure the intersection at $t=t_p$ of the two expressions of F, where $F=i.t$ for $t < t_p$ (a straight line) and Green-Ampt curve for $t > t_p$. Without this translation, the Green-Ampt curve would start at the origin and the line and curve would not intersect. The sentence is clarified as "Next to ensure that F_p (Eq. 3) and $F=i \cdot t_p$ match at the intersection of the two curves on $t=t_p$ (Fig. 2b), an abscissa translation (shift time, t_o) is applied to F_p (Mein and Larson, 1973)."

10. p. 10, l. 255: "predicative": predictive?

AR-10. Yes, corrected as suggested

11. Figure 6: "Comparison of the simplified and RE results against Vachaud et al. . . . .": I can see no results of simulations solving the Richards equation in this graph. There are two curves, but I suppose they belong to two SWINGO calculations with different conductivity functions?

AR-11. Yes, lines were not showing and are now added back in the revised manuscript. The new version of Fig.6 is attached to this comment.

12. Figure 8: In the lateral drainage case (panels e-h) there is no infiltration at all in region I. That means that that lateral drainage was zero, doesn't it? Can you give the settings of S0, Ksh and b in the figure caption?

AR-12. In Region I, when L <h_b then z_w=0, so the soil is saturated from the beginning since the water table is in the capillary fringe and the hydraulic gradient in the Boussinesq approximation is ~0. Eq. 8 and Fig. 1b were edited to reflect this. Values of S_o=0.02, b=1m and K_{sh}= K_s (from Table 1 soils) were added to the figure caption. The new version of Fig.1 is attached to this comment.