Dear Editor,

dear Dr. Micha Werner,

point-by-point responses to the reviewer comments are documented in the two revision files that we uploaded ('Reply on RC1' and 'Reply on RC2'). We have included all suggested changes from these two files into the manuscript. In summary, we made the following changes:

Line	Reviewer	Content
69-70	R2	from leaching out of the soil profile (which includes the root zone below the maximum soil depth). Chemicals are prevented to flow
67-69	R2	Based on the pesticide's soil half-life (approximately 6 to 40 days, depending on soil type; Bayer Crop Science, 2018), it is classified as "readily degradable", its mobility is classified as "moderate", and it is considered "readily soluble" in water (Koc of ~250mL/g).
171-182	R1 and R2	Model parameterization followed standard procedures considering information on climate, topography, soil, land use properties, agricultural management practices (including pesticide applications), and tile drain locations. SWAT offers a range of algorithms representing hydrological processes. Based on experience and understanding of the catchment characteristics, the Hargreaves potential evaporation method and the evaporation-based daily curve number adjustment method were chosen. Pre-calibration-settings of hydrologic parameters included the adjustment of heat units to ensure crops develop completely and the adjustment of channel roughness to account for vegetated, small channels. Application data on respective crops were available with approximate amounts and timing for C1 and as field-specific applications for C2. The pesticide's average application rates are 221g/ha in C1 and 462g/ha in C2. Metabolite release in the soil was parametrized to account for metabolite formation in the soil profile using 'pseudo' chemical applications for both model versions. Pesticide-related algorithms and parameters updated prior to calibration included pesticide in-stream processes such as burial and volatilization, which were turned off due to the low Koc, Henry Law Constant, and vapor pressure of both chemicals and the short travel time in the two catchments.
184-186	R2	The calibration was conducted separately and iteratively for streamflow and pesticide concentrations (i.e., no multi-objective function combining streamflow and pesticide metrics was used).
188-192	R1	The models for the two watersheds were first calibrated using the modified code and then both model versions (original and modified) were run using the same parameters. This is not meant to be a completely 'equitable' model performance comparison, but to show the differences between the two

		versions. A list and description of the calibration parameters and the processes they are associated with is provided in Table 2. A parameter is included in the table if it was changed in at least one of the catchments.
261	R2	Bayer Crop Science: Bayer Crop Science Internal Report 1, 144, 2018.
296	R1 and R2	Table 2: Calibration parameters with initial value and calibrated end value (changed values in bold) (Table not shown here)

Please excuse that the marked-up version of our Manuscript is not in "Track-Change" Mode. Instead, the new text is highlighted in blue. We hope this is ok. Let us know if not.

Thank you again for handling our manuscript!

With best regards

Jens