

Referee #1: Dr. Jos C van Dam

Dear Dr. van Dam,

Thank you very much for your constructive comments and advice that will help to improve the manuscript and the study. Please kindly follow the point-to-point responses (in blue color) to your comments (in black color) below. Since the revised MS was not prepared at this stage, the referred line numbers here were from the originally submitted MS. All detailed changes and revision were listed here.

On behalf of the authors

Thuy Nguyen

General comments

The authors performed an extensive study on maize growth at two distinct soil textures with different water regimes for a normal and extremely dry weather year. During the growing season, they collected a comprehensive dataset on root length, soil water potential, sap flow, leaf water potential, leaf transpiration, stomatal conductance, net photosynthesis and maize growth observations. These data were used to derive hydraulic conductances for the soil-root system, the plant stems and the entire plant system, to describe the maize reaction to dry weather and soil conditions and to determine the maize water use efficiency.

The paper addresses very relevant scientific questions related to the growth and management of one of the most important staple crops. The methods are clearly described and valid. The experimental results are well presented in 14 informative graphs and supplementary material and are objectively in detail described. The discussion is systematic and justified. Both the introduction and discussion are embedded in current scientific literature. The conclusions are sound and very useful for state-of-the-art crop-soil modeling.

In general, the used language is fluent and precise. Below I listed some minor text errors.

Thank you very much for your supportive summary and comments on the presented data, results, and findings of the study. Our responses to the detailed comments were below:

Specific comments

Line 66: Omit “of”

We delete “of” between “analyzed” and “genetic” words.

Line 117: Add space in “genotypesduring”

We added space to separate this typo. Thanks. See also similar comment from Referee#2

Line 134: “it” should be “it’s”

We corrected this typo. See also similar comment from Referee#2

Line 178: “and 2018F1P3” should be “and 2018F2P3”

Many thanks. We corrected it. It will be “2018F1P3 and 2018 F2P3”

Line 180: omit “in”

We deleted “in”.

Line 187: “form” should be “from”

We corrected the typo. Thanks.

Line 593-596: rewrite sentence

We revised the mentioned sentence. Here is the new sentence: “Maize plants had lower plant hydraulic conductance and more negative soil water potential in the rainfed plot in stony soil and they exhibited earlier stomatal closure as compared to the same plot in the silty soil”

Line 649: “effects” should be “effect”

We corrected the typo.

Line 650: “which based” should be “which was based”

We corrected the typo.

Line 667-669: rewrite sentence

We rewrote the mentioned sentence. Here is the new sentence: “In addition to stomatal regulation, leaf growth and plant size adjustments are important to regulate the transpiration and water use efficiency in the same year.”