Water table fluctuation and productivity of alfalfa, in Marcos Juárez, central pampean ecoregion, Argentina

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Summary

The Pampas ecoregion of Argentina affected by the presence of the groundwater table and it positively or negatively influences of forages depending on its depth. Consequently, the analysis and understanding of its effects on forage species, especially alfalfa, is useful information due to its direct impact on forage productivity. The Aqua Crop model, calibrated and validated for this specie, considered to estimate the forage aerial biomass based on the climatic variables that operate in growth, the soil water balance, and the depth of the water table. The objective of this work was to estimate forage biomass production in alfalfa in response to water table fluctuations, for different climatic scenarios in Marcos Juárez, Córdoba. The results show that the model is capable of predicting biomass, when considering the water table contributions, with an average error of 0,409 tn MS ha^{-1} in each section. During each the period of cutting, there were responses in alfalfa growth related to the contributions of the water table in the water balance.

Key words: groundwater; *Medicago sativa*; forage biomass