Verification of WOFOST model for maize (grain) under the soil and meteorological conditions of Bulgaria

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Many mathematical models for simulating productivity processes of the agricultural crops have been developed during the last decades of the 20th century. Recently, WOFOST dynamic models, elaborated in the World Center for Food Study together with the Wageningen Agricultural University, gain great popularity. They are used for investigation of the yield variations, taking into account the agrometeorological and soil-hydrological conditions, climate change and variability, sort and hybrid variety, agrotechnics, etc. Yield and income prognoses, prognoses for the unfavorable cultivation conditions, and regional ones are edited; soil fertility is evaluated, etc. The paper presents the results of maize growing and development simulation by WOFOST model under the soil-meteorological and agrotechnical conditions of Sofia region, Bulgaria in the period 1987-1998. Irrigation is taken into account. The accumulation of the epigeous and the root masses, development of leaf area, dynamics of soil moisture and evapotranspiration during the vegetation period is simulated. The data obtained is compared to the corresponding field experiment one. The correlation is sufficient.