

Development of the population model of the Western corn rootworm

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The Western corn rootworm (*Diabrotica virgifera virgifera*) is an agricultural pest, which was caught in a pheromone trap in Germany first time in 2007. According to the first estimates Germany has a loss given default of 25 million € (BAUFELD et al., 2006) caused by the high damage potential of these pest per year. A simulation model, which can be used by the internet, was developed to predict, to identify, and to schedule monitoring dates and pest control dates. For a realistic description of the abundance it was necessary to identify and to estimate all important influencing factors affecting the occurrences of this pest. The relationship between these factors and the most important population dynamics processes was mapped by mathematical and deterministic rules into the simulation

model. A first version of this simulation model can be used on the internet portal <http://diabrotica.jki.bund.de>. The user interface allows a single field simulation supported by GIS-elements like a map window and zoom functions to get optimized pest control dates. Also a daily updated risk map is shown for the federal state Bavaria and Baden - Württemberg. In the project progression the model needs to be validated and if necessary modified.

BAUFELD P., J.-G. UNGER, U. HEIMBACH (2006): Ein bedeutender Quarantäneschädling im Mais: Westlicher Maiswurzelbohrer *Diabrotica virgifera virgifera* LeConte. Informationsblatt der BBA.