

 **P.55 - Simulation model for yield losses wheatpest tested in Poland**

Czembor, J.H., Czembor, E., Domeradzka, O., Aubertot, J.N.

WHEATPEST is a simple crop growth model for wheat which incorporates damage mechanisms caused by several pests (pathogens, insects, weeds) and which simulates the physiological effects of these pests on growth and yield. The model enables the simulation of three levels of yield: attainable yield, yield reduced by several pests and yield reduced by one pest. The objectives of presented investigations were twofold. First, it quantified agronomic, socio-economic, and environmental performances of various spring wheat management plans in Central European conditions. Second, it will be used to quantify the predictive quality of WHEATPEST, using a version specially adapted to spring wheat. Due to interactions among different fields and because biological management requires several years of existence, it was not possible to rapidly set up a typical experiment in an experimental unit. It was proposed to perform a diagnostic of spring wheat management plans in already existing cropping systems in Poland. The proposed management plans were: Organic management (in an Organic certified farm, Ciechanow); Integrated management with no chemicals (Radzikow); Integrated management with possible use of chemicals (Radzikow); Intensive management (Kaweczyn). Several types of data were collected: weather data, development stages, crop growth assessments, assessments of injuries caused by pests, yield. Obtained preliminary results describe quantified agronomic, socio-economic, and environmental performances of various spring wheat management plans in Central European conditions.