Modeling sunflower fungal complex to help design integrated management strategies

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(5937) MODELING SUNFLOWER FUNGAL COMPLEX TO HELP DESIGN INTEGRATED PEST MANAGEMENT STRATEGIES

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ABSTRACT

Sunflower is submitted to several major pathogens. Modeling is a key tool to help design Integrated Pest Management strategies to control them. A new qualitative modelling approach is currently under progress using the IPSIM platform (Aubertot and Robin, 2013) for sunflower. It aims at predicting injury profiles on sunflower as a function of cropping practices, soil, weather, and the surroundings of the considered field. Based on a literature review and expert knowledge, hierarchical deterministic bayesian networks were developed. Independent datasets were used to assess their quality of prediction. This communication will present: i) a first draft of IPSIM-Sunflower; ii) the evaluation of its predictive quality; iii) examples of simulation to help design IPM strategies to control the disease; iv) a discussion on the limits and benefits of the approach, along with perspectives.

Key Words : Helianthus annuus, Phoma macdonaldii, Phomopsis helianthi, Plasmopara halstedii, Sclerotinia sclerotiorum, cultural control