



Understanding and improving growers' risk management of soilborne pathogens

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Abstract

Soilborne invasive pathogens such as *Meloidogyne chitwoodi* and *Globodera pallida/rostochiensis* comprise a major threat to the production of high-value crops like seed potatoes, flower bulbs, and tree nursery crops in the Netherlands. Adequate risk management at the farm level can prevent further spread of these organisms. However, in practice it appears that growers often do not, or inconsistently apply required management practices, leaving ample opportunity for new field infestations to occur.

To change the tide, we performed a study among Dutch production sectors with the objective to evaluate growers' awareness of soilborne invasive pathogen risks, the management practices they applied to reduce these risks, and their motives for doing so. Data were collected through in-depth personal interviews. In our analysis, we used a theoretical framework based on the Theory of Planned Behaviour (1,2).

The analysis revealed three types of growers, with management levels characterized as "adequate", "insufficient" and "risky". Growers whose management was insufficient were aware of the risk but perceived limitations in their possibilities to reduce the risk. Growers with risky management had limited awareness of the risks they were exposed to, and perceived a negative stimulus from their social environment and restrictions in their possibilities to apply measures. In 2012, these results are used to design theory-based intervention strategies for improving farm level risk management of soilborne invasive pathogens.

Literature cited:

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2. Breukers, A., Van Asseldonk, M., Bremmer, J., and Beekman, V., 2012. Understanding growers' decisions to manage invasive pathogens at the farm level. *Phytopathology* (in press); DOI 10.1094/PHYTO-06-11-0178