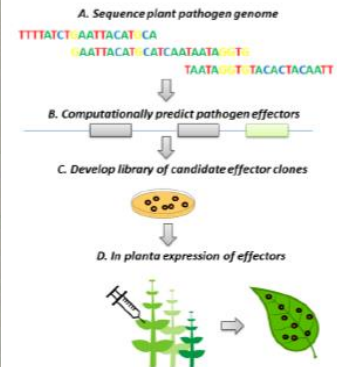
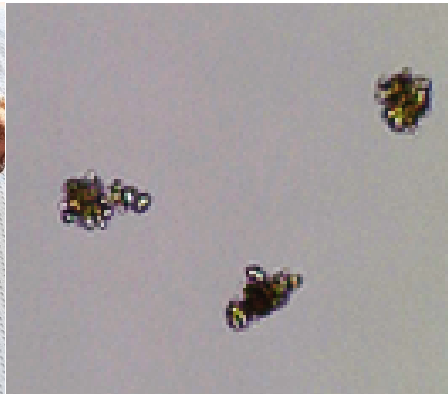


scabEomics



Developing Effector-based breeding for resistance to *Spongospora subterranea* (powdery scab) in potato

Powdery scab caused by *Spongospora subterranea* (Sss) can cause significant yield losses in potato. Spore balls (cystosori) persist in soil for years, and under wet conditions release motile zoospores that infect roots and tubers. Powdery scab lesions on potato skin affect marketability and provide entry points for other pathogens. Moreover, Sss can spread Potato MopTop Virus (PMTV). Efforts to breed for Sss-resistant varieties are impaired by troublesome phenotyping methods. Plants possessing a specific resistance (R) gene are resistant towards a pathogen that produces the corresponding avirulence (Avr) gene product. Highly expressed effectors that do not trigger HR in susceptible plants, are considered candidate AVRs. These will then be used to screen a germplasm collection for hypersensitive responses to identify novel R gene sources. Teagasc recognises that producers benefit from crop varieties adapted to production areas and that disease resistance to common pests are core performance indicators. Molecular markers for powdery scab resistance will be developed. These will be used in marker assisted selection at Teagasc, which will build on successful use of markers for introgression of resistance genes for late blight and potato cyst nematodes.

Project Duration: 36 months (18M Wageningen University & Research + 18M Teagasc)

Collaborating Institutions: Teagasc, Ireland
Wageningen University & Research (WUR), the Netherlands

Project Team:

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