

Eggsplorer: a rapid plant-insect resistance determination tool using an automated whitefly egg quantification algorithm



Insect egg quantification, Rapid phenotyping, whitefly, Deep learning, Plant insect resistance



Netherlands

BACKGROUND

Counting of insects on plants is crucial in plant breeding for insect resistance or for assessment of crop protection products. The traditional method of visually counting insects using a microscope is time-consuming. For instance, whiteflies can lay up to hundreds of eggs on a single leaf within a few days.

RESULTS

Researchers created a tool called **Eggsplorer**, which automates the counting of whitefly eggs. These images were used to train a deep learning model that can detect and count the eggs accurately. In testing, Eggsplorer achieved a counting accuracy of nearly 94% when compared to manual counts.



Screenshot of the Eggsplorer web application

PRACTICAL RECOMMENDATION

Eggsplorer presents a new method for fast automatic determination of insects eggs on plants, that is easily accessible for users in a web-based application. Eggsplorer could be integrated into mobile phone platforms allowing users to collect data on the go and receive real-time advice on pest infestation.

»»» SABER MÁS

Eggsplorer: a rapid plant–insect resistance determination tool using an automated whitefly egg quantification algorithm | Plant Methods | Full Text (biomedcentral.com).

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000570



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