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P2

## - Exploring HIGS technology for reducing *Fusarium graminearum* infection in model and crop plants

Wednesday, July 17, 2019 - 🕒 18:00 - 19:00

📍 SEC - Hall 5

### Abstract

*Fusarium graminearum* is a major fungal pathogen of cereals worldwide, causing seedling, stem base and floral diseases, including Fusarium Head Blight (FHB). Currently FHB control using fungicides is only partially effective whilst crop cultivars with acceptable level of resistance are scarce. Host-Induced Gene Silencing (HIGS) is a transgenic RNAi technology whereby small interfering RNAs produced by the plant induce targeted silencing of the fungal genes during attempted infection. Our aim is to identify *Fusarium* pathogenicity and essential for life genes whose silencing through HIGS is robust and leads to reduced disease levels. For this, we have carried out *F. graminearum* inoculation of detached Arabidopsis leaves expressing various HIGS constructs. HIGS of six selected *F. graminearum* genes rendered Arabidopsis plants less susceptible to fungal infection. We noticed that the effect of silencing was not the same for every HIGS construct tested. This variation could be the consequence of differing role(s) of each selected sequence and/or differing construct efficacies. We will discuss how these data obtained using model plant species could be used to develop RNAi-based Fusarium control strategies in cereal crops.

### Authors

[Ana Karla Machado](#)

Rothamsted Research

[Elene Yamazaki-Lau](#)

Embrapa Wheat

[Martin Urban](#)

Rothamsted Research

[Jose Mauricio C Fernandes](#)

Embrapa Wheat

[Kostya Kanyuka](#)

Department of Biointeractions and Crop Protection, Rothamsted Research

[Kim Hammond-Kosack](#)

Rothamsted Research

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