Annual Project Report
October 2016 to September 2017

Project title	Identification of Fusarium resistance within UK oat breeding lines (PhD)		
Project number	21130012		
Start date	Oct 2016	**End date**	Sept 2021

Project aim and objectives
To develop an inoculation method for the infection of oats with *Fusarium langsethiae* and identify QTL for resistance/susceptibility to *Fusarium* through the analysis of mapping populations and near-isogenic lines.

Key messages emerging from the project
None at this stage

Summary of results from the reporting year
Field inoculation experiment failed to show a large infection level of *Fusarium langsethiae*. Glasshouse inoculation experiment conducted, samples still to be analysed for HT2+T2 Field grid experiment showed a high spatial variation in the natural infection of *F. langsethiae*. Field trial material from ADAS Rosemaund with Near Isogenic Line (NIL) from a Buffalo x Tardis cross has been analysed for HT2+T2. Unfortunately, mycotoxin levels were low and no significant differences were detected. Field trials of winter and spring sown NIL (as above) were completed at Harper Adams. Harvested grain will be analysed for HT2+T2 this autumn. NIL with a unique HT2+T2 resistance QTL are currently under production.

Key issues to be addressed in the next year
Mycotoxin analysis of the 2017 harvest material. Repeat of the NIL field experiments. Another glasshouse inoculation experiment to be conducted based on 2017 results. Continued generation of a NIL for the unique FHB resistance QTL identified by the previous project.

Lead partner	Prof Simon Edwards, Harper Adams University
Scientific partners	Dr Catherine Howarth, Aberystwyth University
Industry partners	Felix Cobbold Trust

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	Perry Foundation
Government sponsor	

Has your project featured in any of the following in the last year?	
Events	***Press articles***
None	None
Conference presentations, papers or posters	***Scientific papers***
Presentations at AHDB and HAU PhD Symposia	None
Other	
None	