



TOWARDS THE DEVELOPMENT OF A LABORATORY BASED ASSAY FOR THE DETECTION OF COMMON ROOT ROT (*APHANOMYCES EUTEICHES*) IN VINING PEAS

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Pea growers are increasingly concerned about the threat of root rots to crops, which represent a third of problem samples received in the PGRO crop clinic. Peas are susceptible if the soil is wet, consolidated or if there has been a long history of growing peas. These rots can result in complete crop loss or, in less severe incidences, uneven maturity of the crop and reduced yield. Once identified, extending crop rotation is the only way to mitigate loss.

A. euteiches is increasingly identified in pea roots either asymptotically or as part of the root rot complex in the UK. Low level infections are often unnoticed and this allows the disease to increase in the soil until conditions favour severe disease development and significant crop loss.

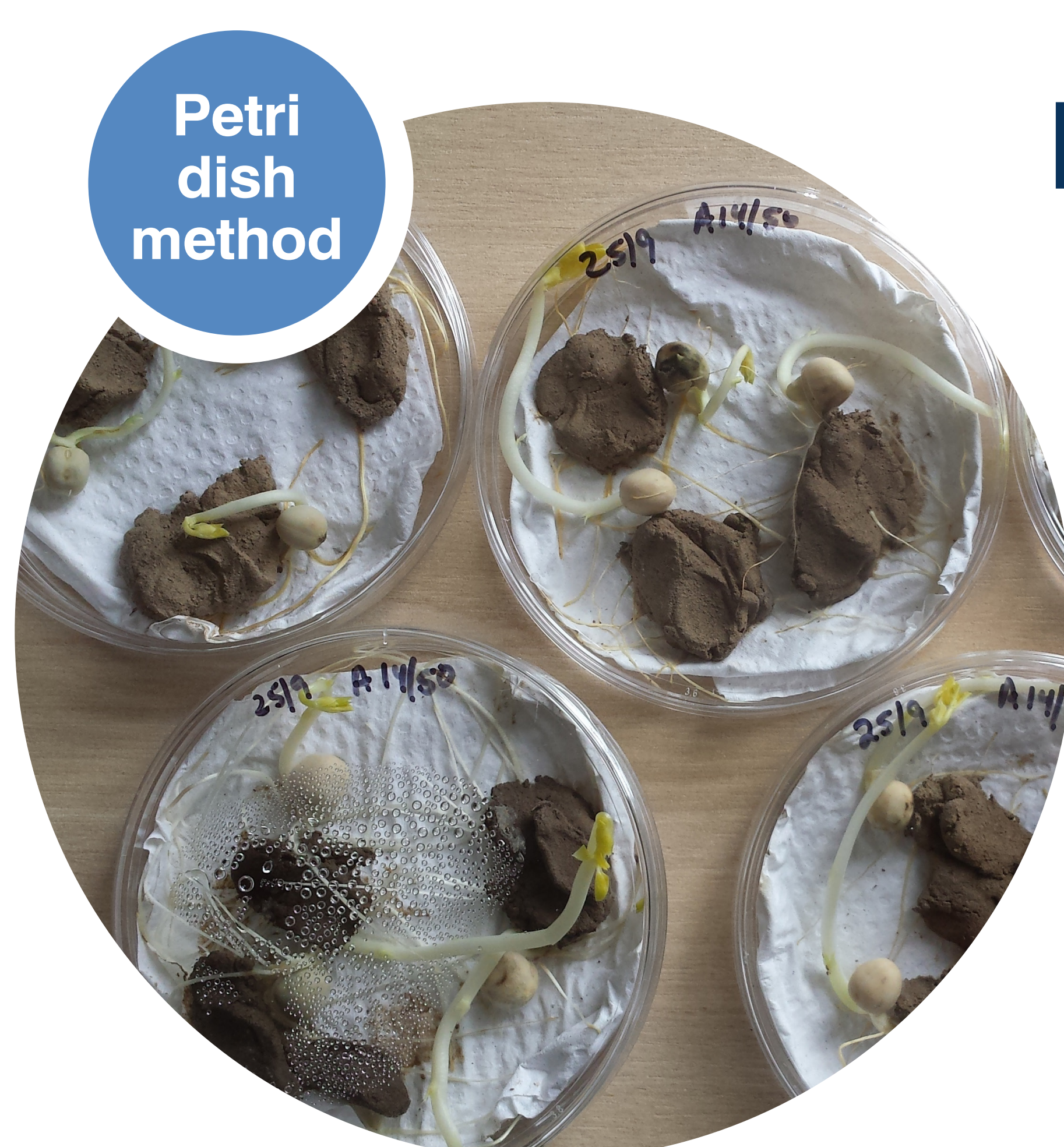
Roots are blackened and disintegrating. The root tissue contains many oospores which survive in the soil following harvest.



Pea roots
infected with
A. euteiches

This project is evaluating laboratory based assays to identify and quantify disease levels. These will be used to study the build up of the disease with increasing pea crops and to understand the factors involved in disease development.

Methods Evaluated



Petri
dish
method

Peas grown under the soil to be tested in a humid environment. Disease symptoms rapidly appear.



Soil
bait test

Peas are grown in field soil and assessed for disease symptoms. This takes 30 days, too long for an in-season assay.



Plants
rolled in
damp tissue
with soil

Other rots quickly swamp the plants preventing *A. euteiches* from infecting.



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