Original thinking... applied

Wireworms – A collaborative industry project to improve Integrated Pest Management

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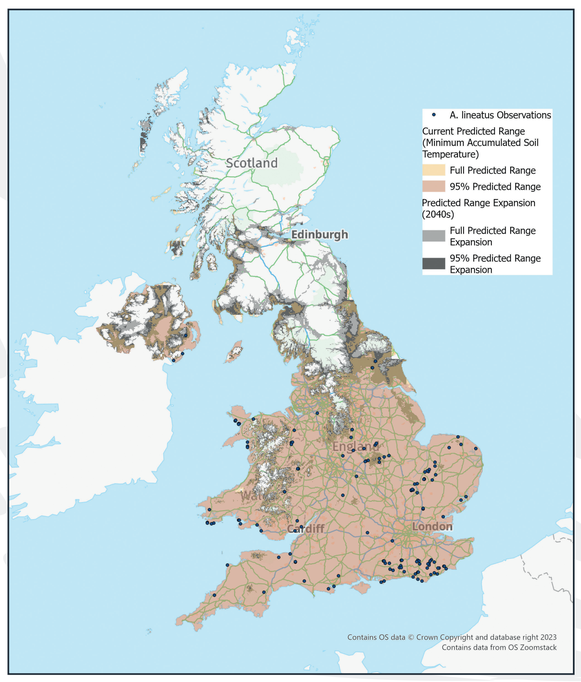
INTRODUCTION

Wireworms (larvae of elaterid beetles) are causing an increasing level of crop damage in the UK and Europe. They feed on cereals, including maize, and high value crops such as potatoes, carrots, lettuces, onions, and sugar beet. This project was co-designed with industry partners to fill gaps in our knowledge and facilitate implementation of an Integrated Pest Management (IPM) approach.

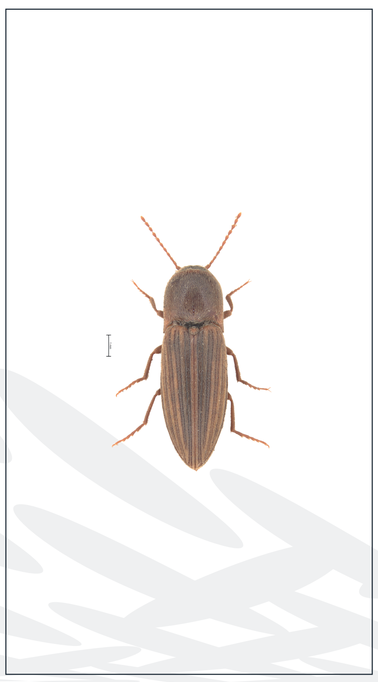
APPROACH

- DNA barcoding for species identification. Only 6 of our 73 species are pests.
- Investigate responses to cover crops.
- Investigate developmental responses to increasing temperatures.
- Population distribution modelling in response to temperature variations.
- Provide an evidence-based framework for field risk assessment.

Reduced damage to potatoes – cover crops trial



Current and predicted range map for *Agriotes lineatus*



OUTCOMES

- Identification, training and knowledge exchange workshop.
- DNA barcodes produced for 16 species.
- We identified a cover crop which reduces damage to potatoes by 50%.
- Pest species maps for 5 species were produced to show current and predicted distributions.
- Development and oviposition parameters in response to varying temperatures measured. Allows population predictions to support decision-making.

Industry collaboration fast-tracked the application of outcomes

Collaborating very closely with our industry partners from project design to final report, meant that all outcomes were directly applicable. This allowed our industry partners to change their practices during the project in response to new knowledge.

With thanks to our project partners and to the wider team at Fera.

For information about our other collaborative industry projects, scan the QR code.

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