

Scientist develops early warning system for garden pests

June 2 2016

A computer scientist from the University of York will play a key role in developing an app and email alert system for gardeners as part of the Big Bug Hunt – a global citizen science project that warns gardeners of pests.

After weeks of care, having garden plants attacked by a sudden influx of pests can be disheartening.

Many organic control methods need to be put in place before pests strike, and it's often too late to save a crop once bugs have arrived.

A new project, funded by Innovate UK and the Biotechnology and Biological Sciences Research Council (BBSRC), aims to solve this by collecting reports from gardeners to track and monitor how bugs and pests spread. Using data collected by members of the public via the Big Bug Hunt initiative, this information will be combined with meteorological data to generate predictive models of pest activity.

Gardeners will be notified by email or via a forthcoming app when pests are heading their way and take preventive action.

The app - developed by Growing Interactive, a provider of world-leading apps for gardeners – will combine the latest developments in computer statistical analysis with reports from gardeners around the world to create the most advanced predictive system available.

Dr Daniel Kudenko, an expert in Artificial Intelligence, data mining and

user modelling from York's Department of Computer Science, will provide data analysis and develop algorithms for the app.

Dr Kudenko said: "The potential impact of the project is big. First of all, developing an accurate predictive model for garden pest spread will be of great benefit for agriculture, ranging from private gardeners to, eventually, large-scale farmers. We will also demonstrate that crowd-sourcing of data is a viable alternative to field research for the generation of [predictive models](#)."

Working with gardening companies and publications around the world, the Big Bug Hunt is putting out a call to millions of gardeners, asking them to submit a report whenever they spot a bug in their garden, such as aphids and cabbage white caterpillars.

Jeremy Dore, Growing Interactive Founder, said: "Like many people, I used to spend weeks raising plants, only to have them devastated by a pest. As an organic gardener I don't want to spray insecticides and would rather take preventative action. That's why we've set out to combine our technical expertise with leading research at the University of York to tackle this problem for gardeners around the world."

"We want to create a system that sends personalised alerts that encourage you to take action in your garden, based on your location and what you're growing. We're tracking everything, from essential beneficial insects such as bees whose numbers have drastically reduced recently, right through to aphids and slugs. We'll be making the results available as the data is analysed."

"Beyond that, we'd love to see this develop into a tool that can be used in developing countries to prevent crop losses. Around 40% of all food grown worldwide is lost to pests and diseases, so even a small reduction in losses could have a huge impact on feeding the world. It's great to see

a project with real long-term benefits for the future of our food system."

More information: To get involved in the Big Bug Hunt and report your bug sightings, visit BigBugHunt.com .

Provided by University of York

Citation: Scientist develops early warning system for garden pests (2016, June 2) retrieved 27 April 2024 from <https://phys.org/news/2016-06-scientist-early-garden-pests.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.