

Four wheat spikes are shown against a white background, illustrating the progression of a plant pathogen. From left to right: the first spike is healthy; the second shows a dark, necrotic lesion at the base of the head; the third shows a more extensive dark lesion; the fourth is a healthy, mature spike. The background of the entire page is a light green, textured pattern.

INVASIVE PLANT PATHOGENS THREATENING THE USA

Locations United Kingdom, United States

Dates 30/03/2017 - 31/08/2020

Summary

Invasive plant pathogens represent a threat to US agriculture, forestry and the environment. Accurate information on these pathogens is required to help prevent their introduction and spread. The Plant Pathogens Subcommittee of the US Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens (ITAP) has identified the worst plant pathogen threats to the USA. CABI is commissioning the compilation of data on these plant pathogens to be published as full datasheets in the Invasive Species Compendium [www.cabi.org/isc] (an open access global resource currently containing over 10,000 datasheets).

The problem

The spread of invasive plant pathogens, including fungi, viruses, bacteria, phytoplasmas and nematodes, presents a significant global threat to agriculture, forestry and the environment. Significant crop damage and economic loss are of particular concern and are likely to occur when these pathogens establish on susceptible crop hosts and spread.

Invasive plant pathogens that are likely to cause significant economic impact in the USA, if they are introduced or if they spread beyond their current distribution, have been identified. Accurate information about these pathogens is required to help prevent and/or manage their spread.

What we are doing

The Plant Pathogens Subcommittee of the US Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens (ITAP) has identified the worst plant pathogen threats to the USA. These are pathogens that are either already present in the USA, with the potential for further spread, or would represent new threats if they are introduced.

CABI's role in this project is to commission scientific experts to write new datasheets or update existing datasheets for the plant pathogens identified by ITAP. Datasheets are peer-reviewed and published in the Invasive Species Compendium (ISC – www.cabi.org/isc). Each datasheet will contain accurate and authoritative scientific information on the biology, distribution range, hosts, diagnosis, impacts and management of these pathogens. The information provided is intended for use by quarantine officers, researchers and policy makers (among others) to help prevent introductions, to eradicate new incursions of plant pathogens and to mitigate the damage caused to crops or species in natural areas.

Results so far

In the first phase of the project, 17 new datasheets have been commissioned from experts and the editing, peer review and publication of these is underway. Datasheets are published once editing is complete. Further phases are planned to address even more plant pathogen threats that are of importance to the USA.

Donors

USDA-APHIS

Partners

Rosemarie Hammond, USDA-ARS NEA BARC Molecular Plant Pathology Laboratory, Beltsville, USA, Julius Fajardo, USDA Office of Pest Management Policy, Washington DC, USA, Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens (ITAP) Subcommittee on Plant Pathogens, Hilda Diaz-Soltero, Caribbean Advisor to the APHIS Administrator

CABI Project Manager Gareth Richards

<https://www.cabi.org/what-we-do/cabi-projects/>