TYFU CYMRU
GROW WALES

Where to find Information on Pests and Diseases in Plant Health

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Introduction

You may have found a pest or pathogen or have heard about the threat from one coming into your crop. So where would you go for information?

There are a range of resources available. Here we show how you can get a general background on the pest or disease, where you can find more in-depth information or how you can enquire about the legislation relating to the movement and biosecurity of plants and which pests and pathogens are notifiable. You can also find resources to learn about how the pest or disease could be controlled. Or you may want to investigate the academic and scientific research behind the factsheets and guidance.

This guidance note signposts you to a selection of the resources that you may find useful in building your knowledge of a plant health issue. Remember that this list is not exhaustive and there are plenty of other valuable information sources available.

More information sources on current plant health issues can be found on the Tyfu Cymru Knowledge Hub.

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Flow chart on collecting Pest and Disease (P&D) information

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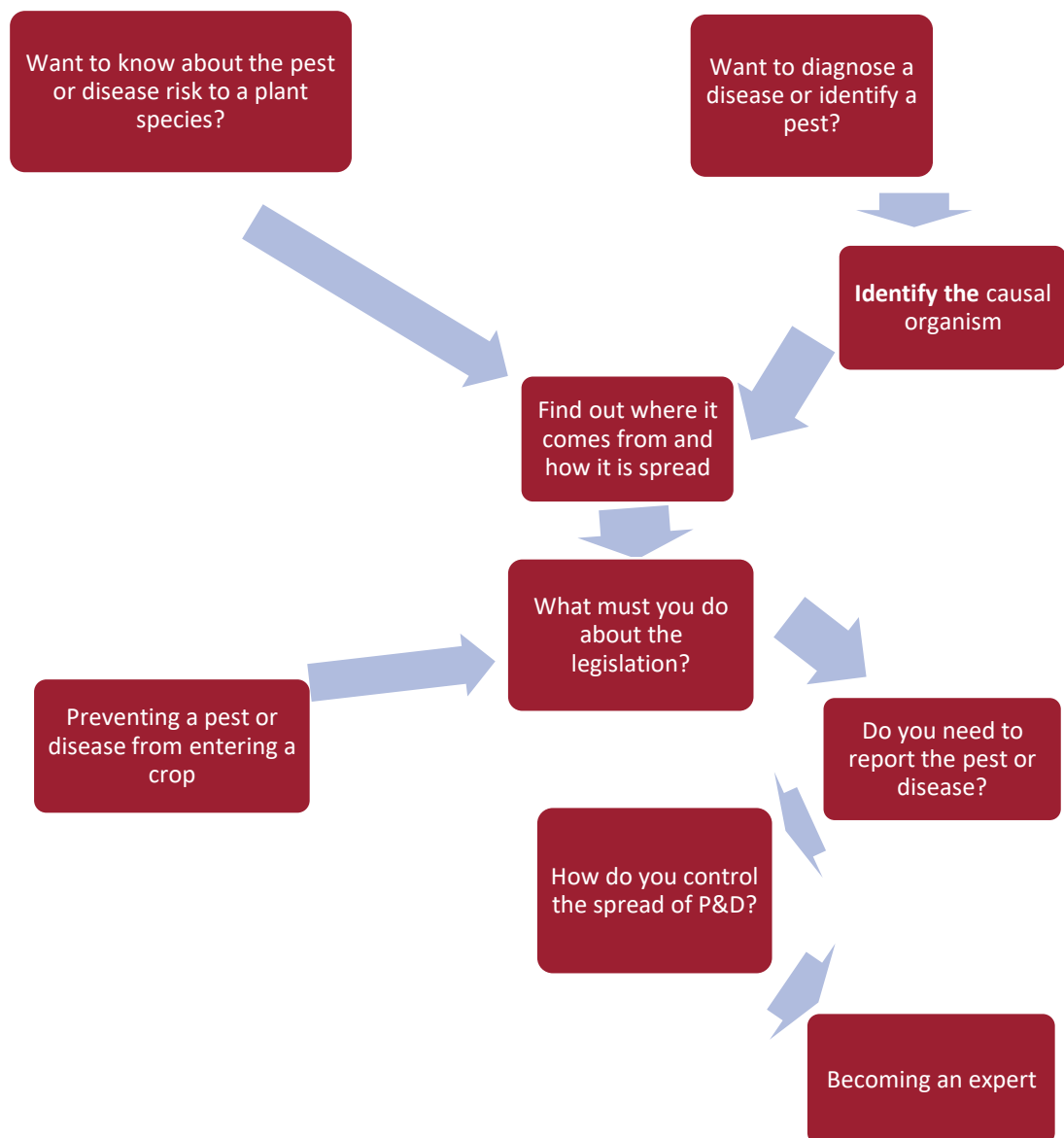
Want to know about the pest or disease risk to a plant species?

Defra maintains the Plant Health Risk Register. To use this, you can input scientific binomial or common names to search pests, pathogens and diseases on the Risk Register. The results give the level of risk and impact that the pest or pathogen may have on UK crops or trees.

https://secure.fera.defra.gov.uk/phiw/riskRegister/

Want to diagnose a disease or identify a pest?

Tyfu Cymru has an introductory webinar on diagnosis that directs you towards information sources, along with a webinar on tree health

Diagnosis https://www.tyfucymru.co.uk/home/knowledge-hub/webinars-videos/plant-health-webinar-diagnosis-in-ornamental-plants/

 Tree Health https://www.tyfucymru.co.uk/home/knowledge-hub/webinars-videos/plant-health-webinar-health-of-trees-and-shrubs/

Identify the causal organism

Books are usually a good place to start as you can browse the pages to find pests and diseases. Some books use identification keys which are particularly useful for narrowing down the name of the pest or disease you are looking for. These books also identify physiological disorders of plants which may look like a disease but are caused by other factors rather than organisms. Examples of these books are:

Royal Horticultural Society Pests and Diseases by Pippa Greenwood and Andrew Halstead (2018) published by Dorling Kindersely

Collins Pests, Diseases and Disorders of Garden Plants 4th edition by Stefan Buczacki and Keith Harris (2014) published by HarperCollins

AHDB also publish the Encyclopaedia of Pests and Natural Enemies which can be downloaded from Encyclopaedia of pests and natural enemies | AHDB

The RHS has web pages for the more common pests and diseases found in garden plants. Though intended for the gardener they can be useful for the grower in providing background information. Each page describes "what is it?", symptoms, control in garden situations and the biology of the organism.

The pages can be found at [See RHS tips & advice for all your plant diseases and disorders / RHS Gardening](#)

Very useful for growers are the Crop Walkers Guides. These are for specific crops e.g. hardy nursery stock, and give photographs and descriptions of pests and diseases that may be encountered whilst you are looking over your crop. AHDB Crop Walkers Guides can be found at [AHDB](#). The guides are also available as a mobile app [AHDB Crop Walkers' Guide on the App Store (apple.com)](#)

If you wish to browse images of pest damage or disease on a particular crop then the photographic collection at https://www.ipmimages.org/ is very useful. Please note, though, that many of the photographs are taken in North America and the pests and diseases may not be present in Wales.

Plant disease alerts and factsheets are issued by the trade magazine Horticulture Week as a subscription service https://www.hortweek.com/plant-health-alerts

For pests and diseases worldwide, CABI publish the Plantwise Diagnostic Field Guide available online, along with pest and disease alerts.

[Diagnostic-Field-Guide.pdf (plantwise.org)](#)

Find out where the pest or disease comes from and how it is spread.

As mentioned above, Defra maintains the Plant Health Risk Register. You can input scientific binomial or common names to search for pests, pathogens and diseases. If a Pest Risk Analysis (PRA) has been produced this will be shown in the search. The PRA contains information on the classification of the organisms, their host ranges, distributions, pathways of infection, risks and impacts and control and management options along with references to supporting research.

https://secure.fera.defra.gov.uk/phiw/riskRegister/

<u>Defra Pest and Disease Factsheet and Pest and Disease Alerts</u>

On these pages (below) are Factsheets on UK notifiable (quarantine) pests and diseases and some non-notifiable (non-quarantine) pests. They give information on geographical distribution, host plants, how it is spread, symptoms and advice on control.

https://planthealthportal.defra.gov.uk/pests-and-diseases/pest-and-disease-factsheets/

https://planthealthportal.defra.gov.uk/pests-and-diseases/pest-and-disease-alerts/

For the pests and diseases of trees, and legislation, Forest Research is a reliable source of information. Their website has comprehensive factsheets on a selection of tree pests and diseases giving geographical distribution and origin, host plants, how it is spread, symptoms and advice on control, and links to further research and to the Tree Health Diagnostic and Advisory Service.

Pest and disease resources - Forest Research

What must you do about the legislation (for Wales and the UK)?

In order to achieve a good level of biosecurity in Wales, the movement of plants and the control of pests and pathogens is linked to legislation. Much of this legislation concerns specified organisms. It is essential that businesses comply with the legislation. So, if you have identified a plant health problem, or are trading in certain plants, particularly "high priority" plants, it is important that you are aware of the regulations and laws.

Defra's central repository of information, that is regularly updated, is on the Plant Health Information Portal UK Plant Health Information Portal - UK Plant Health Information Portal (defra.gov.uk)

Plant health controls, imports and exports, certification schemes, plant passporting and listed quarantine plant pests can be found at Plant health controls - GOV.UK (www.gov.uk)

Examples of information on individual pests and pathogens on the Plant Health Information Portal are given for Quarantine Organisms under statutory control. Those pages give photographs of symptoms and list further sources of information. The organisms of this page are subject to strict quarantine regulations.

https://planthealthportal.defra.gov.uk/pests-and-diseases/high-profile-pests-and-diseases/

Preventing a pest or disease from entering a crop

Biosecurity measures and good hygiene practices are ways in which the spread of a pest or disease can be limited and prevented from attacking a crop.

Plant Biosecurity policy for the UK was laid out in "Protecting Plant Health. A Plant Biosecurity Strategy for Great Britain" (2014) (Defra) and can be found at Plant Biosecurity Strategy - UK Plant Health Information Portal (defra.gov.uk) . This strategy is being updated in 2021.

Pest and disease forecasting, based on weather data conducive to the pest or disease, is widely used and a number of tools and apps are available. These may be part of Integrated Pest Management to reduce the use of pesticides. A useful introduction to disease forecasting can be read at https://www.botanylibrary.com/plant-diseases-2/forecasting-of-plant-diseases-meaning-importance-and-procedure-botany/15412

Do you need to report the pest or disease?

Some pests and diseases are notifiable. These are quarantine pests. Information on which P&D must be notified is given on the UK Plant Health Information Portal https://planthealthportal.defra.gov.uk/pests-and-diseases/pest-and-disease-factsheets/notifiable-pests/

For information on how to report a notifiable pest see the information on

https://planthealthportal.defra.gov.uk/pests-and-diseases/reporting-a-pestdisease/

In Wales you should contact your APHA Inspector.

Many pests and diseases are not notifiable. However, it is important that we keep track of the frequency and occurrence of P&D. So, if you find something you can voluntarily report it and can often get assistance in diagnosis. This reporting will help biosecurity in Wales.

Tree P&D can be reported through TreeAlert https://www.forestresearch.gov.uk/tools-and-resources/fthr/tree-alert/ or ObservaTree https://www.observatree.org.uk/resources/

The International Plant Sentinel Network collects P&D reports from across the world, particularly from arboreta and botanic gardens. They provide resources on how to record the conditions of plants which is useful way of learning about describing symptoms. https://plantsentinel.org/resources/

Wales has recently established a sentinel network of parks and gardens where APHA will carry out regular inspections to examine the occurrence of P&D – this is the Wales Plant Health Sentinel Site Network.

How do you control the spread of pests and diseases?

A list of information sources for plant health in horticulture on diagnosis, control and legislation is provided by the Plant Health Centre, Scotland https://www.planthealthcentre.scot/knowledge-bank/horticulture/resources

AHDB have a searchable Knowledge Library where you can input a disease name, and if it is listed, information will be available on the disease and its control https://ahdb.org.uk/knowledge-library

Very often, the use of pesticides requires qualifications and registration. Some examples of the training courses available can be found on the NPTC website.

https://www.nptc.org.uk/qualificationschemes.aspx?id=2

The BASIS schemes, including the Professional Register, are designed to provide information that keeps you up to date with pesticide application information.

https://basis-reg.co.uk/schemes

The British Crop Production Council (BCPC) has a subscription service for its online UK Pesticide Guide that gives information on more than 1300 pesticides and their usage.

UK Pesticide Guide

The UK Pesticide Guide 2021 is also available as a book.

However, wee are all aware now that control does not depend only on chemical treatments and a range of other methods are available including hygiene and sanitation, Integrated Pest Management (IPM) and biocontrol. Tyfu Cymru has useful webinars on these topics in its Knowledge Hub Knowledge Hub - Tyfu Cymru

Becoming an expert

Once you have become familiar with diagnosis and the legislation, you may well want to investigate a particular pest or disease more thoroughly. You can read the most recent scientific information from research into that pest or disease and this is likely to be very helpful in designing control strategies.

There are several ways in which you can find this research.

For finding scientific research publications on a pest, pathogen or disease there are several services that provide search functions and abstracts. One of the most accessible is Google Scholar where searches can be made on pest, pathogen or disease names or authors, and within timeframes that the user specifies. Links to the full articles are available for some papers.

https://scholar.google.co.uk/

CABI offers a subscription service for searches for references in the applied life sciences.

https://www.cabdirect.org/

A pest information wiki is also available which gives scientific papers for a selection of pests and diseases Pestinfo-Wiki

There are also a range of resources on horticultural topics on the Tyfu Cyrmu Knowledge Hub Knowledge Hub - Tyfu Cymru