Guidance document for the UK plant health pest risk register

Summer 2021

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# Two page summary guide

### Background and purpose

The UK plant health risk register (UKPHRR) provides information (e.g. host range, distribution and regulatory status) for more than 1000 plant pests. It also assigns overall numerical scores that give an assessment of the risk and threat each pest poses to the UK. The higher the score is for a pest, the higher the risk and threat it poses to the UK. These values are calculated using a set of simple rules, are a quick assessment, and are often subject to some level of uncertainty. Overall scores range from 1 (very low risk) up to a maximum of 125 (exceptionally high risk). Based on the scores and other supporting assessments such as more detailed pest risk assessments (PRAs), the UKPHRR helps government make decisions on priorities for actions based on evidence. Created in 2013, the UKPHRR initially had around 650 pests. Pests are continually being added, and (as of spring 2021), it now contains over 1220 pests.

### Searching

* The UKPHRR can be searched by the scientific (Latin) name (e.g. *Bemisia tabaci*) or synonym of the pest if it has more than one Latin name
* Common (English) names (e.g. tobacco whitefly) can be used in the pest search but this can be less reliable
* Hosts can be searched only by scientific (Latin) name only. Searching can be either at the genus level (e.g. *Acer*) or at species level (e.g. *Acer platanoides*)
* Advanced search and whole spreadsheet download options are also available

### Structure of a pest page in the UKPHRR

**Title area** includes the pest name (scientific), and the date when the pest record was last updated. Some or all of the following may also display:

* Banner indicating the pest has been archived. This means that information on the pest is not being actively maintained and could be out of date (e.g. host range, distribution)
* Banner indicating high uncertainty around the assessment, affecting the score
* Common (English) name of pest, which differs in quality depending on source database the information was taken from
* Link to download a UK Pest Risk Analysis (PRA)

**Scenario** indicates whether a pest is present (“pest spreads to maximum extent”) or absent (some form of “pest is introduced”) from the UK. The scenario used affects the way the likelihood is calculated.

**Pathways** indicate the most likely route of entry into the UK. **Common pathways** include all realistic pathways; **pathway assessed for entry to UK** is a subset used for the UKPHRR calculations.

## Unmitigated and mitigated risk ratings

Risk ratings and current mitigations are the main part of the UKPHRR. The following caveats should be noted:

* Due to the rapid nature of the assessment in the UKPHRR, uncertainty is likely to be associated with many of the scores
* The UKPHRR is precautionary by design. This means where some factor (e.g. host range) is unknown, the worst-case scenario will be used, and the scores may be higher than the actual level of risk posed to the UK
* Scores are a relative ranking and not an absolute risk value. That is, a pest scoring 80 is more of a risk than one scoring 40 – but the 80-scoring pest is unlikely to be exactly twice the risk of the 40-scoring pest

Unmitigated risk rating

Thisgives an assessment of the risk and threat that a pest poses to the UK based on the premise that no official regulatory controls at all are being applied, not even the ones in current legislation.

For example, regulations could be in place to prohibit the importation into the UK of host species from countries where the pest is known to be present. These trade restrictions would clearly reduce the risk of entry of the pest but for the purpose of assessing the unmitigated risk, they are ignored and not taken into account in the calculation of the unmitigated rating (other than a low entry volume).

### Mitigated risk rating

This a re-score the pest based on the mitigations currently in place and often results in a reduction in the overall score. **Current mitigations** show the current measures (if any) that reduce the risk of introduction or spread of the pest, such as legislation or industry certification schemes. The impact of these mitigations are used in the assessment of the **mitigated risk** score. For some pests that do not have any current mitigations, the unmitigated and mitigated scores will usually be the same.

#### Other information

**Proposed actions** are ticked if additional measures to reduce the threat from a pest are considered proportionate and practicable.

**Distribution and pest details** list countries where a pest is known to be present and give other background data on the pest such as the main host plants. These data are used to inform the risk ratings assigned earlier.

Further information lists published PRAs, the status of the pest in the legislation, and any action the government would take against any findings. It also contains general comments, including some key facts about the pest, and sometimes comments on uncertainty associated with the assessment.

# Detailed guidance: background

## Purpose of the UK plant health risk register

The UK plant health risk register (UKPHRR) is a pest based prioritisation and ranking tool. The UKPHRR records and rates risks to UK crops, trees, gardens and ecosystems from species of plant pests and pathogens. It forms an agreed, evidence based framework for prioritising actions by government.

## History

The development of a prioritised register of risks was one of the key recommendations of the independent Task Force on Tree Health and Plant Biosecurity in 2012. Work began on the UKPHRR in April 2013. A series of workshops with stakeholders gathered views on content and format and tested out ways of populating the UKPHRR on some example pests. In summer 2013 Fera and Defra continued the work to complete some 650 pest entries. The UKPHRR was launched at a stakeholder summit in January 2014 and is a freely available online resource. Pests continue to be added to the UKPHRR most months, and the scores of pests already included are reviewed in response to significant new information. By spring 2021, the UKPHRR had almost doubled in size and contained more than 1220 pests.

## Examples of pests included

* Pests which are included in the plant health legislation, including quarantine pests and regulated non quarantine pests. It should be noted the regulatory regimes differ across different parts of the UK. The UKPHRR attempts to include all legislation, noting if there are differences between parts of the UK
* Pests from the lists kept by the European and Mediterranean Plant Protection Organisation (EPPO). These include pests EPPO recommends for regulation and pests which are, or have been, on EPPO’s early warning Alert list
* Pests for which a UK Pest Risk Analysis (PRA) is available, usually because of a past outbreak or repeated interceptions
* Interceptions and outbreaks of pests (in the UK or elsewhere), where the pest is considered to pose a risk to the UK
* Pests identified through other means, e.g. scientific and trade literature, contact with relevant specialists, etc., that are considered to be a possible threat to the UK

There are also a small number of less specific entries, for example an entry for “unknown pest”. This acts as a reminder that new, previously unknown, risks are continually arising. Thus, the UKPHRR does not contain all pests which may pose a risk to the UK and can never do so.

## Examples of pests excluded

* Widespread native pests being managed on an individual basis by growers
* Pests of stored products (e.g. grain) rather than growing plants
* Pathogens and invertebrates which do not directly affect plants
* Vertebrate pests

## Limitations

The UKPHRR does not represent a comprehensive record of all pests of plant health concern. It is an evolving document to which more pests are being added every month. Organisms not yet assessed for the UKPHRR may still be subject to plant health controls and could pose a risk to the UK.

The UKPHRR is a rapid screening tool, and cannot provide a comprehensive assessment of risk. It does not replace the need for a full pest risk analysis for pests of greater concern. As a rapid screening tool, it is by its nature precautionary and is designed to over-estimate risk in areas of uncertainty (e.g., a pest of several non-native pine trees is assumed to be able to attack native Scots pine).

While we make every effort to maintain entries and keep them up to date with the latest information, there may be time lags in updating pest entries. It should be noted that pests which are marked as archived are not actively updated with new information.

# Detailed guidance: searching the UKPHRR

## Home page search box

The search box on the home page allows searches by:

* Pest scientific (Latin) name
* Pest scientific synonym
* Pest common name (NB: less reliable results because the same common name can be used for more than one pest)
* Host plant scientific name

The default is to search by all categories, but boxes underneath the search bar can be unticked to limit the categories. The search also works on parts of names.

The results page will return the number of hits for each category heading, i.e. preferred name, synonym or common name (for the pest), and host. Clicking on the category name will expand the box to show hyperlinks to all the pests which meet the search criteria in that category. The hyperlink is to the UKPHRR species page on that pest, with details of scoring, background information on the pest, and notes on any action the government may take against the pest in question.

There is a known glitch where clicking on a pest name takes you back to the UKPHRR home page instead of the pest’s individual database page. This is caused by that particular pest having a draft entry which we are still working to complete, and which we have not yet made publicly available.

## Advanced search options

On the front page, underneath the search bar on the left hand side, there is a link to the advanced search options. This option returns a list of hyperlinked pests which meet the selected criteria. Advanced search options can be used individually or in any combination. The important thing to remember is that if too many criteria are selected, the search will not return any results because there are no pests which meet those specific criteria.

Screenshot of show/hide optionUse the show/hide button at the top of each box to show the search options which can be selected in that box. Options available in the advanced search are:

* Scenario
* Pathway assessed for entry to the UK
* Score range (in numbers) for each component of the unmitigated and mitigated risk scores, e.g. unmitigated entry between 3 and 5
* Proposed actions
* Type of pest (high taxonomic level, e.g. bacterium, fungus)
* Hosts (by scientific/Latin name only)
* Pests considered to be a threat to protected cultivation
* Pests considered to be a threat to forest trees

## Download entire UKPHRR

On the front page, underneath the search bar on the right hand side, there is an option to download the whole database as a comma separated values (csv) file. This enables the user to set up custom filters and searches in their preferred spreadsheet software.

Please note, we are continually adding pests and updating organisms already on the UKPHRR, so if you use the spreadsheet download, it is important to check back regularly for the latest information. We make every effort to compare similar pest entries and standardise scoring where applicable, but this is a large database and some inconsistencies are inevitable. As noted earlier under “limitations”, the UKPHRR is not, and never can be, a comprehensive list of every pest which poses a threat to UK plant health.

# Detailed guidance: structure of a pest record page

Screenshot of information iconMany boxes in the UKPHRR have a little “i” icon. Clicking on this will open a pop up window containing further explanation of the details in that box.

## Title area

### **UK risk register details for [pest scientific name]**

The UKPHRR uses the scientific (Latin) name which, to the best of our knowledge, is currently accepted by the scientific community. Many pests have synonyms, and there are times when different sources have different opinions as to which name is correct. Searches on the UKPHRR return results for synonyms as well as accepted names.

### High uncertainty (pink banner)

Some pests display a pink banner under the pest name stating that there are high levels of uncertainty. All pest risk assessments have some level of uncertainty, particularly using a rapid screening tool such as the UKPHRR. However, the information relating to pests with this banner are judged to have high uncertainty, such that the scores and other data on the pest should be treated with some caution. Further details as to the causes of the uncertainties for that particular pest may be found at the bottom of the page.

If this banner is not displayed, it does not mean that the scores for that pest are “certain”, but it does indicate that the assessment was made with a greater level of confidence.

### **Pest has been archived (grey banner)**

Some pests have a grey banner under the species name stating they have been archived. Archiving indicates that the pest is considered to be of relatively low risk to the UK, and the entry is not actively updated or maintained. However, if significant new information were to become available indicating an increased risk to the UK, the pest would be reviewed at that time.

If this banner is not displayed, it indicates that the pest data are actively maintained and updated as new information becomes available.

### Last update date

This indicates the most recent date the record for that pest was edited. Edits range from trivial amendments (e.g. editing a single country distribution record or correcting a typographical error in one of the statements) to a wholescale review of the pest entry. If there has been a significant review of the entry, this will be highlighted in an article on the front page of the UKPHRR under “Risk register news”.

### Common name

Many pests have English common names recorded in the database, and where available, these are displayed. Depending on the original source, the common names are of somewhat variable quality.

### PRA document

Pests which have a recent UK Pest Risk Analysis (PRA) will display a link to download the full PRA. PRAs are usually quite lengthy, detailed and technical documents but do give a much more comprehensive assessment of risk than is possible in the rapid screening assessment of the UKPHRR. When a PRA is completed, the RR scores for that pest are reviewed and set in line with the PRA assessments.

Very old UK PRAs are not made available as the information in them is very out of date and will not give accurate information about the current risk posed to the UK.

## Scenario for Risk Register

Broadly, this indicates if a pest is present or absent in the UK. Likelihood calculations differ depending on the scenario.

If the pest is absent from all parts of the UK, the scenario is “**Pest is introduced**” or similar, e.g. “pest is introduced with vector or finds vector”. The likelihood score is based on entry and establishment scores.

The UKPHRR typically only includes pests which are present in a limited part of the country and not those which are present nationwide. For pests which are present in the UK, the scenario used is “**Pest spreads to maximum extent**” and the likelihood is based on how likely this is to happen in the next 5 years.

There are a small number of pests with different scenarios.

## Pathways

The term pathway is used to describe the commodity (or other means such as natural spread) with which the pest is considered most likely to be associated and thus introduced to the UK. As well as transport, we also consider how easy it will be for the pest to find a suitable growing host in the UK to continue developing or to start a new generation. Commonly used pathways include plants which are going to be planted, fruit and vegetables, cut timber or wood packaging material.

### Pathway assessed for entry to the UK

This is the pathway assessed as the most likely to enable a pest to enter the UK and find a living host. Most pests will have only one pathway listed, but where there are two or more pathways considered to be equally likely, multiple pathways may be displayed.

### Common pathways

This is a list of all (realistic) potential pathways which the pest may use. Unfortunately, due to the large numbers of potential pathways and non-standardised format, at the time of writing (summer 2021) we have still not managed to display this feature correctly on the website.

## Unmitigated risks

The scores in the UKPHRR are based on simple rules. They may be calculated based on input values (using available data) or set following rules and expert judgement. For example, there is a customs code for the import of tomato fruit so a pest on tomato fruit will have the commodity volume directly converted to the UKPHRR score. But if the pest is associated with tomato plants, then customs codes only show data for the combined category “vegetable and strawberry plants”, so expert judgement and data from other sources has to be used to calculate a UKPHRR score. Calculated scores may be increased or decreased if expert judgement considers that the calculation has not given a value comparable to that of similar pests.

Unmitigated scores assume there are no plant health controls, not even the existing ones, on either the pests or the commodities. However, in the case of commodities which are prohibited, the trade volume is set at the lowest score (i.e., 1), because the commodity should not be traded at all.

Most ratings are scored on a 1-5 scale, with the exception of likelihood x impact (1–25) and the overall risk rating (1–125). The higher the score, the higher the risk. Ratings are colour coded as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Rating** | **Colour & score** | | | | |
| **Blue** | **Green** | **Yellow** | **Orange** | **Red** |
| Likelihood, spread, impact, value at risk, etc. | **1** | **2** | **3** | **4** | **5** |
| Likelihood x impact | **1-4** | **5-9** | **10-14** | **15-19** | **20-25** |
| Overall UK risk rating | **1-14** | **15-29** | **30-44** | **45-59** | **60-125** |

A small number of pests do not have the ratings boxes completed. This may be because their overall risk was considered to be very low and the full assessment to calculate each contributing score was not carried out. Some pests which are widespread in the UK and which are included in the legislation under the category “regulated non quarantine pests” (RNQPs) do not have fully completed entries. We have provided the information we have gathered on them to date but have not completed their scoring.

### Likelihood

This calculation differs by scenario.

If the **pest is absent** from the UK, the likelihood score is a measure of the risk of the pest being introduced. This is composed of two sub-scores, those of entry into and establishment within the UK. The lower of the two scores of entry and establishment is used. This is because both entry and establishment are necessary for a pest to be introduced. The limiting step for introduction of a pest is therefore whichever component is least likely.

If the **pest is present** in the UK, the likelihood is a measure of the risk of the pest spreading to the maximum extent. Factors taken into account when assessing the likelihood of spreading to maximum extent include:

* Natural spread within the UK
  + Natural spread includes spread by a vector which is present or which is likely to arrive in the UK
* Spread by trade pathways within the UK (and, where appropriate, new introductions of the pest into the UK)

This does not necessarily indicate the pest is expected to establish in every geographic location in the UK; it may indicate, for example, that the pest could spread to all susceptible crops even if these are only grown in a limited area.

### Screenshot of + button next to likelihoodEntry (click on + button next to likelihood to show)

Factors taken into account in rating a pest’s risk of entry include:

* Geographic distribution
* Host range
* Likelihood of association of pest with commodity
* Volume (weight) of trade in host material from origins where the pest occurs
* Likelihood of pest survival along the pathway
* Interception records from UK and other importing countries in Europe
* Whether found on plants for planting or plant produce
* The chance of the pest moving from the commodity to a host plant

### Establishment (click on + button next to likelihood to show)

Factors taken into account in rating a pest’s risk of establishment include:

* Host plant distribution in the UK
* Suitability of UK climate for establishment
* Pest’s ability to survive in protected cultivation
* Pest’s ability to survive routine crop protection practice

### Spread

The spread score is the rate of natural spread of the pest. Spread in trade is not considered here. This score is often subject to uncertainty, particularly for some of the winged insects or airborne fungal spores, where data on distances they can disperse are frequently not available.

### Impact

Impact is an indication of the damage expected in the UK for a host plant or industry sector, should the pest arrive. It does not take account of the size or value of the host industry: this is rated separately under “value at risk”. Economic, social and environmental impacts are scored separately. The largest of the three impact scores is used for the overall impact score, and also used to calculate the overall UK risk rating.

### Screenshot of + button next to impactImpact – economic (click on + button next to impact to show)

The UKPHRR scores economic impact based on:

* Impacts in regions of the world where the pest currently occurs
* The expected impacts on major hosts in the UK (e.g. cooler summers in the UK could lead to lower levels of damage)
* How easily the pest can be controlled by plant protection products
* How fast the pest population might be capable of growing and spreading
* Vulnerability of the host to damage
* The number of major hosts affected
* Whether the species can vector other plant pests

### Impact – environmental and social (click on + button next to impact to show)

These scores are set using expert judgement and are informed by many of the same factors used in scoring economic impacts.

### Value at risk

This score aims to identify the relative importance of different hosts to the UK. The data behind the scores uses publicly available information. Crop values are calculated over a 5-year average to even out yearly fluctuations in markets. Trees are calculated on an overall value to the UK (which includes ecosystem services), divided by the proportion of the total area the species in question occupies.

Data on values for the larger sectors, such as pine trees or potatoes, are likely to be more accurate than data on smaller sectors such as the value of *Agapanthus*, as more data are available on the larger industries.

### Likelihood x impact (1–25 scale)

This score can be useful for comparing the relative risks of pests whose hosts are very different as it removes the value at risk component from the overall score. NB: not all numbers between 1 and 25 are possible.

### UK unmitigated risk rating (1–125 scale)

This is calculated as likelihood score x impact score x value at risk.

This is a relative ranking score, and not an absolute value. For example, a pest scoring 80 is unlikely to pose exactly twice the risk of a pest scoring 40. The 80-scoring pests are considered to pose a higher risk than 40-scoring pests, but it is a qualitative relationship and not a quantitative one. NB: not all numbers between 1 and 125 are possible.

## Current mitigations

This section indicates what measures (if any) are currently in place to reduce the risk of the pest to the UK.

The key mitigation text provides summary information about the measure which the assessor considers to have most impact on the pest.

Information on all possible mitigations is provided via a tick list. It is possible for a pest to have no mitigations ticked, one or several. Available options are:

* Regulation, indicating that the pest (or a key pathway) is included in the plant health legislation (e.g. *Agrilus planipennis*, emerald ash borer, is a regulated quarantine pest)
* Surveillance, indicating that the pest is subject to targeted official surveys or general monitoring (e.g. monitoring for certain wood-boring beetles near ports)
* Industry scheme could refer to certification schemes for areas such as fruit or seed potatoes
* Contingency plan is a document detailing actions to be taken to eradicate or contain a pest should an outbreak be found
* Awareness includes publicity, resources such as plant pest factsheets, etc. and could help with early detection of a pest
* Research as a mitigation could be on many aspects of the pest, for example reducing the chances of pest association with the commodity at origin, or future management of a pest

## Mitigated risks

Mitigated risk ratings contain the same components for scoring as the unmitigated ratings. The default is to set mitigated scores to the same value as unmitigated scores. Expert judgement is then used to assess the impact of each of the current mitigations on each component of the unmitigated score, resulting in the mitigated score. For example, an import prohibition on the key host is likely to lead to a reduction in entry for that pest. After the effects of the current mitigations have been assessed for each component, the overall mitigated risk scores are calculated in the same way as the unmitigated risk scores (e.g. mitigated likelihood is the minimum of the mitigated entry and mitigated establishment scores).

## Proposed actions

After the mitigated risk scores have been considered, this section sets out priorities for future management of the pest. Depending on the pest ranking and any limitations in current mitigations, none, one or several of the following options may be ticked:

* Regulation (or further regulation) to legislate against the pest or risky pathways
* Deregulation if the scoring suggests current actions are disproportionate to the risk of the pest or the pest has become established
* Management by industry (typically for a pest already present in the UK)
* Targeted survey if the distribution of a pest in the UK is unclear and more information would help to inform future policy
* Pest Risk Analysis (PRA) to further assess the risks of a pest
* Contingency plan to prepare responses against any outbreak or incursion of the pest
* Publicity to raise awareness of the pest among relevant people, often by the production of pest alerts or factsheets
* Research suggestions would be targeted at knowledge gaps the UKPHRR entry has highlighted as significant

## Distribution and pest details

This section of the UKPHRR gives some background details about the pest. The scoring and priorities for future actions draw on this information as part of the decision making process.

Distribution. Where information is available, country by country distribution status has been compiled. In some cases, further details are given, but for many records the pest is just recorded as present in a particular country with no further detail. Information is drawn from published sources and, as far as possible, checked for accuracy, but some errors and omissions are inevitable.

The UK should always appear on the distribution list, either showing some information as to pest distribution or indicating the pest is absent.

Type of pest. This gives the higher taxonomic placement of a pest, e.g. whether it is a nematode, fungus, etc.

### Host or industry at risk

This section is designed to give an indication of which hosts may be most vulnerable to a pest. For a pest limited to one or two host plant species, the major hosts (next section) and host or industry at risk will be similar. For polyphagous pests, hosts of greater importance to the UK will be highlighted. Quite often a whole sector may be identified as at risk, e.g. “broadleaved trees” or “all protected cultivation”.

### Major hosts

This list attempts to provide a reasonably complete list of host species, insofar as available information permits. For highly polyphagous pests, the information will always be incomplete, and there may be some errors. Additionally, there is a limit to the number of hosts which can be displayed. In such cases the UKPHRR tries to show the range of hosts, e.g. by including at least one species from every recorded host family.

### Threats to protected cultivation

This box identifies if protected cultivation is at particular risk (e.g. glasshouses, polytunnels). If the answer reads N/A or is blank, this indicates the pest is not considered a threat to protected cultivation though it may be a risk to outdoor plants.

### Forest tree pests and pathogens

This identifies if a pest is primarily a pest of broadleaved or coniferous trees. If it is blank or the answer is N/A the pest is not considered to be a tree pest. However, some pests with tree species as hosts will not have this box populated. This is because many species feed on a range of hosts including trees but are only damaging to a subset of those hosts, which may not include the tree species. Thus, they are not marked as a forest pest here.

## Further information

### PRA

If a recent UK pest risk analysis (PRA) is listed in this box, the full document should be available via a link at the top of the webpage. Older UK PRAs are not published as the information in them will be very dated and is likely to be misleading. Information about selected PRAs from other countries and from the European and Mediterranean Plant Protection Organisation (EPPO) may also be included here, but the UKPHRR does not show all such documents.

### Regulation and EPPO listing

All regulations and European and Mediterranean Plant Protection Organisation (EPPO) lists are subject to regular updates and revisions. We endeavour to keep the UKPHRR up to date, but the original sources must be consulted for completely accurate and up to date information.

* The main regulation which applies in Great Britain is: The Plant Health (Phytosanitary Conditions) (Amendment) (EU Exit) Regulations 2020
* The main regulation which applies in Northern Ireland is: Commission Implementing Regulation (EU) 2019/2072

While many pests have similar regulations in Great Britain and Northern Ireland, some pests do differ. The UKPHRR attempts to show what level of regulation applies to which part of the UK, but the original legislation should be consulted in case of doubt.

EPPO listings are advisory categories only and do not have a legal basis:

* A1 list is for pests which are recommended for regulation and not present in any part of the EPPO region
* A2 list is for pests which are recommended for regulation and occur in at least one part of the EPPO region
* Alert list is an early warning system for emerging pests

### Actions indicated

The **action** statement is a statement of any priorities to further mitigate the risk of a pest. For example, the action statement may reiterate that statutory action is necessary because a pest is listed. If entries in the “Proposed actions” box have been ticked, the action statement may explain their inclusion. Where relevant, the action statement may highlight differences in regulation between Great Britain and Northern Ireland.

The **general comments** include a few key facts about the pest and its potential risk to the UK. It is not a comprehensive summary.

### Uncertainty

Uncertainty does not display for all pests. This is a feature which was introduced to the UKPHRR after the initial rollout. All newly added pests should have an assessment of uncertainty and recently reviewed pests likewise mostly include the uncertainty table.

The key uncertainty is briefly summarised. Categories considered to contribute to the uncertainty in the UKPHRR rapid screening are then ticked. A pest may have one, several or all contributing causes of uncertainty ticked. The total number of ticks is not necessarily an indication of the overall uncertainty for the pest.

* Climate uncertainty may indicate that it is unclear what conditions the pest requires to thrive, and thus how vulnerable the UK may be to impacts
* Current distribution uncertainty could indicate that there is some uncertainty over where the pest is currently recorded
* Hosts uncertainty might suggest that there is uncertainty over which hosts are suitable for complete development of the pest
* Impact uncertainty could suggest that it is unclear how damaging the pest may be in the UK
* Pathways uncertainty may suggest some uncertainties over how the pest might move in trade
* Regulation uncertainty could indicate that it is unclear if the correct pest is included in the legislation
* Taxonomy uncertainties include species complexes and splitting of a species, meaning that older literature cannot be unambiguously assigned to either of the new species
* UK distribution uncertainty may suggest that the current status of the pest in the UK is unclear, either how widely a pest is distributed or even if it is present or absent

# Do you have a question or comment?

At the bottom of every page there is a form you can use to contact the UKPHRR team. If you would like us to reply to your comment, you can leave your email address, but this is not necessary in order to submit the comment. If you do give us your email, we will only use it to contact you about your query on the UKPHRR. Please help us by noting the following:

* We are not told which page the message was sent from. If you are asking about a specific pest, please include its name to help us to help you
* The UKPHRR is not a tool to report sightings of pests. If you have a pest sighting you wish to report, please use the relevant contact details below. Please provide as many details as possible, including photographs of the pest or its damage if possible. If you have a live insect or similar, please keep hold of it inside a sturdy container. The details of who to contact differ depending on the region of the UK, and the hosts the pest affects:
  + **Tree pests and diseases**:

Tree Alert, run by Forest Research <https://treealert.forestresearch.gov.uk/>

* + **Pests of other types of plants**
    - Pests found in **England** or **Wales**: contact the Plant Health and Seeds Inspectorate headquarters. Telephone 0300 1000 313 (select option 3), or email [planthealth.info@apha.gov.uk](mailto:planthealth.info@apha.gov.uk)
    - Pests found in **Northern Ireland**: contact the DAERA Plant Health Inspection Branch. Telephone 0300 200 7847 or email [planthealth@daera-ni.gov.uk](mailto:planthealth@daera-ni.gov.uk)
    - Pest found in **Scotland**: contact the Scottish Government’s Horticulture and Marketing Unit. Email: [hort.marketing@gov.scot](mailto:hort.marketing@gov.scot)
* We are not able to give advice on pest control
* We cannot give legal advice on the plant health legislation, e.g. whether plant X can be imported from country Y.

# Further reading about the UKPHRR

A technical article giving more details about the creation and rationale behind the UKPHRR has been published in the scientific journal EPPO Bulletin. The following DOI will take you to the abstract on the publisher’s website (and the full article for those with a subscription to the journal): <https://doi.org/10.1111/epp.12130>.

The full citation for this article is:

Baker RHA, Anderson H, Bishop S, MacLeod A, Parkinson N & Tuffen MG. 2014. The UK Plant Health Risk Register: a tool for prioritizing actions. *EPPO Bulletin*, **44**, 187–194.

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This publication is available via the UK Plant Health Risk Register <https://secure.fera.defra.gov.uk/phiw/riskRegister/>

Any enquiries regarding this publication should be sent to us at

The Chief Plant Health Officer

Department for Environment, Food and Rural Affairs

Room 11G32

York Biotech Campus

Sand Hutton

York

YO41 1LZ

Email: [plantpestsrisks@defra.gov.uk](mailto:plantpestsrisks@defra.gov.uk)