



CABI Training Materials
Crop Protection Compendium (CPC)
User Guide

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Introduction



The Crop Protection Compendium (CPC) is an encyclopaedic, mixed-media, one-stop shop that draws together scientific information on all aspects of crop protection. It features extensive global coverage of pests, diseases, weeds and their natural enemies, the crops that are their hosts, and the countries in which they occur. The CPC includes the following information resources:

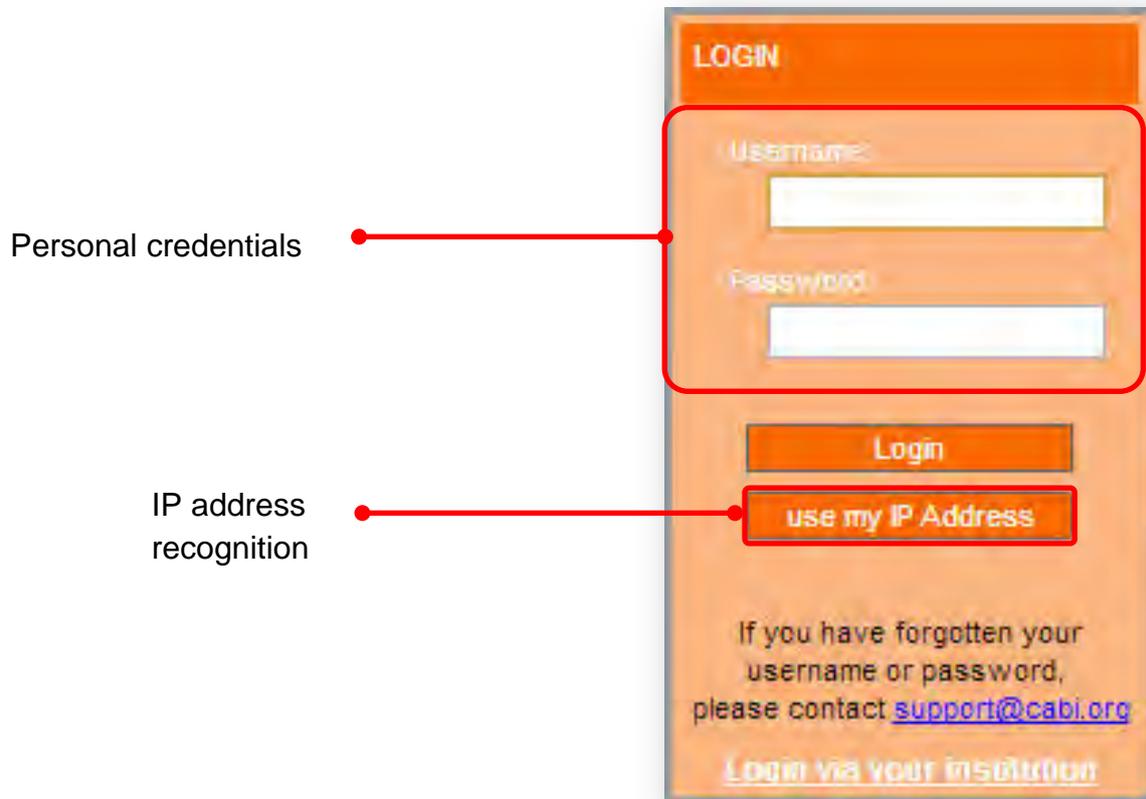
- Datasheets:* Compiled by experts, datasheets provide a detailed global summary of pest, crop and natural enemy species or an overview of country distribution
- Abstracts records:* Indexed records from a subset of the CAB Abstracts database relating to crop protection.
- Full text articles:* Links to the complete scientific record for scholarly articles hosted on the CAB Direct database
- Library:* The Library documents include original texts compiled by experts for the compendium across a range of topics including horticultural crops, invasive plants, maize disease and disorders, plant health diagnosis and much more.
- Glossary:* Includes over 20, 000 definitions relating to crop protection and crop pests. Sources include the FAO Glossary of Phytosanitary terms, The Pesticide Manual (BCPC) and The Manual of Biocontrol Agents (BCPC).

The following guide has been designed for all users of the Crop Protection Compendium to highlight the various features available and enable our customers to easily navigate the interface. It will also introduce various search techniques for new users of online databases and explain various strategies that can be used when searching to return the most relevant results.

Accessing the Compendium

The CPC is a web-based interface. To access the database visit www.cabi.org/cpc

There are two ways to login to the database:



By personal credentials:

If you requested access to the database by a username and password please enter this in to the login box situated in the top left hand corner of the webpage.

By IP Address:

If your institution has a subscription to the database and you are accessing through your institutions network, the database will recognise your IP address as a registered user and automatically log you on to the database.

If you aren't automatically recognised click the  button.

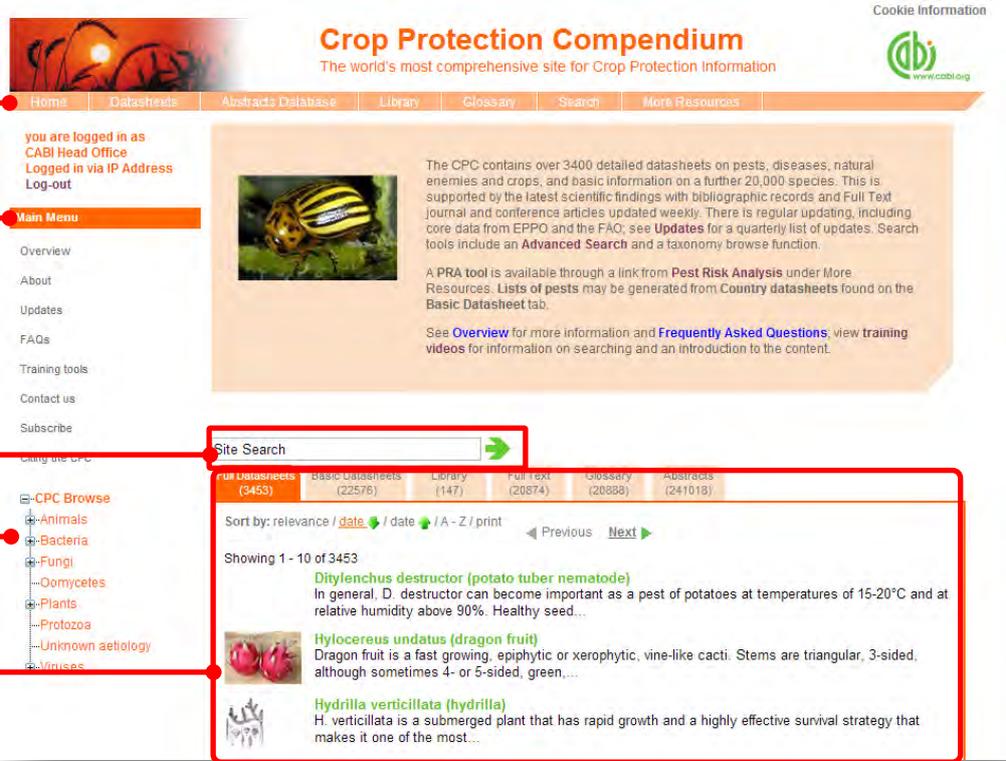
Troubleshooting

If you are having access problems to the database please contact our support team on cabi.support@marston.co.uk

Navigating the interface

The CPC has been designed to enable quick and comprehensive content searches.

Below shows an image of the CPC homepage and the various features displayed.



The screenshot shows the CPC homepage with several navigation elements highlighted by red lines and labels:

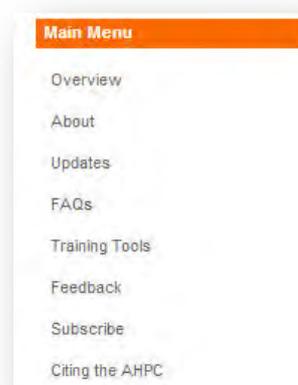
- Top bar menu:** Points to the top navigation bar containing links for Home, Datasheets, Abstracts Database, Library, Glossary, Search, and More Resources.
- Main menu:** Points to the left-hand navigation menu, which includes links for Overview, About, Updates, FAQs, Training tools, Contact us, and Subscribe.
- Quick search box:** Points to the 'Site Search' input field with a search button.
- Browse functions:** Points to the 'CPC Browse' section, which lists taxonomic categories: Animals, Bacteria, Fungi, Oomycetes, Plants, Protozoa, Unknown aetiology, and Viruses.
- Results box:** Points to the search results area, which displays a list of search results with titles like *Ditylenchus destructor* (potato tuber nematode), *Hylocereus undatus* (dragon fruit), and *Hydrilla verticillata* (hydrilla).

Top Bar Menu

The top bar menu provides access to both predefined pages for specific content contained in the database and links to CABI related products.

Main Menu

The Main Menu options allow users to access the support and feedback aspects of the site. These include:



The Main Menu dropdown list contains the following items:

- Overview
- About
- Updates
- FAQs
- Training Tools
- Feedback
- Subscribe
- Citing the AHPC

<i>Overview:</i>	This includes product statistics, unique features, resource types and subject coverage of the CPC
<i>About:</i>	Find out about content contributors, the CPC editorial team and information on our other compendia products
<i>Updates:</i>	Provides a quarterly list of full datasheets that have been added or updated.
<i>FAQ's:</i>	A list of Frequently Asked Questions for product features, usability and development
<i>Training tools:</i>	A link to all our training resources relating to the CPC platform
<i>Feedback:</i>	Contact details for help and feedback queries
<i>Subscribe:</i>	An email options for a trial request for unsubscribed visitors
<i>Citing the CPC:</i>	Instructions for researchers wishing to cite resources from the CPC platform

Browse functions



The browse menu provides an expandable list of organism types based on taxonomy. Simply expand the groups using the  icon and select a taxonomic group from the list by clicking on the link. This will return a list of species for that taxonomic group

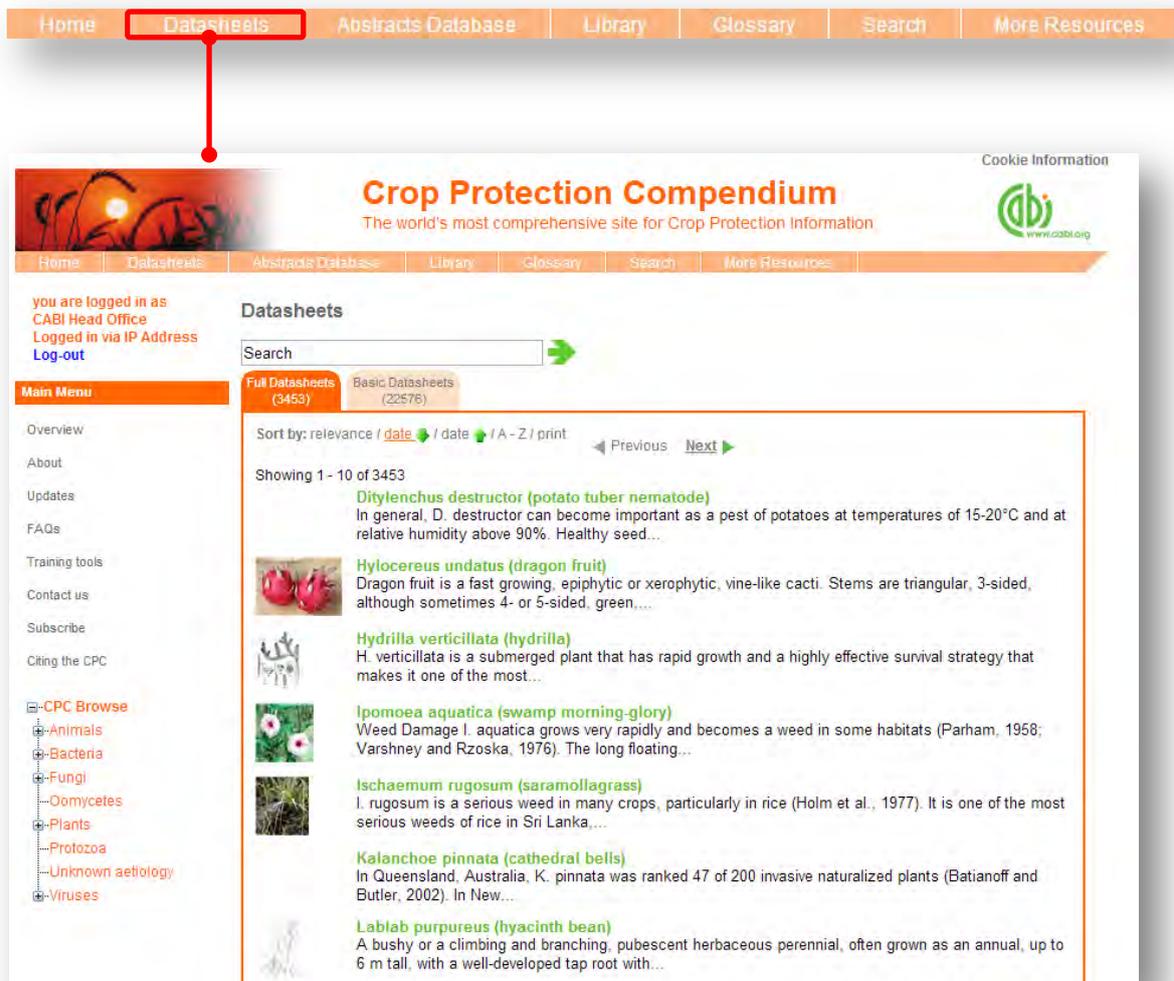
Database pages

As mentioned previously the top bar menu provides access to predefined pages for specific content contained in the database and links to CABI related products and related sites. Below is an explanation of each type of database page displayed in the top bar menu.



Datasheets

The datasheets tab in the top bar menu provides a link to the datasheets page as shown below. This provides a single page where users can conduct searches limited to datasheets only as shown below. Please note, results will be returned on two tabs; Full datasheets and Basic Datasheets.



The screenshot shows the 'Crop Protection Compendium' website. The top navigation bar has 'Datasheets' highlighted. The page title is 'Crop Protection Compendium' with the tagline 'The world's most comprehensive site for Crop Protection Information'. The CABI logo is in the top right. Below the navigation bar, there is a search bar and two tabs: 'Full Datasheets (3453)' and 'Basic Datasheets (22576)'. The 'Full Datasheets' tab is active. The search results are sorted by relevance and show the first 10 of 3453 results. The results list includes:

- Ditylenchus destructor (potato tuber nematode)**: In general, *D. destructor* can become important as a pest of potatoes at temperatures of 15-20°C and at relative humidity above 90%. Healthy seed...
- Hylocereus undatus (dragon fruit)**: Dragon fruit is a fast growing, epiphytic or xerophytic, vine-like cacti. Stems are triangular, 3-sided, although sometimes 4- or 5-sided, green,...
- Hydrilla verticillata (hydrilla)**: *H. verticillata* is a submerged plant that has rapid growth and a highly effective survival strategy that makes it one of the most...
- Ipomoea aquatica (swamp morning-glory)**: Weed Damage *I. aquatica* grows very rapidly and becomes a weed in some habitats (Parham, 1958; Varshney and Rzoska, 1976). The long floating...
- Ischaemum rugosum (saramollagrass)**: *I. rugosum* is a serious weed in many crops, particularly in rice (Holm et al., 1977). It is one of the most serious weeds of rice in Sri Lanka,...
- Kalanchoe pinnata (cathedral bells)**: In Queensland, Australia, *K. pinnata* was ranked 47 of 200 invasive naturalized plants (Batianoff and Butler, 2002). In New...
- Lablab purpureus (hyacinth bean)**: A bushy or a climbing and branching, pubescent herbaceous perennial, often grown as an annual, up to 6 m tall, with a well-developed tap root with...

Datasheets provide key, concise information on a range of topics including global crop species, host species and the pests and diseases associated with crop production. They are subject specific encyclopaedic reference materials commissioned by CABI and offer problem solving resources. There are two categories of datasheets available on the CPC:

Full Datasheets: Written by a range of chosen subject specialist from over 50 countries. After production they are edited and sent to additional experts for peer review or updating as required.

Basic datasheets: Contain summary information in tabular format. They have been compiled mainly by data mining various sources (CAB ABSTRACTS and selected consultant databases). The content has not been manually selected by experts and should therefore be treated with caution. User should consult the original sources before use or referencing. Country datasheets are treated as Basic datasheets.

Datasheets are species or country specific and the table on the next page shows which types of datasheets are available in the CPC database with the topics covered in each. These topics are displayed in pages which are viewable in a tabular format at the top of the page for easy referral. All datasheets include mandatory pages additional to the topic pages that are specific for each datasheet type which includes a cover page with datasheet summary and highlight information, an image bank page (if available), a references page (for full datasheets only) and a report page.

The table also displays the search string that can be used to return only the specific type of datasheets in your results. Please note these search strings are case sensitive and must be searched in quotation marks.

For example, conducting a search by typing “**Datasheet Type(s): Pests**” in to the search box will only return Pest datasheets in the results display box.

Datasheet type	Description	Topic coverage	Search string to limit to datasheet
Pest:	<p>Datasheet providing information on over 2,400 species classed as pests of agricultural and horticultural crops. Pests listed are ones that have major global or regional economic or phytosanitary importance.</p>	<ul style="list-style-type: none"> • Identity, taxonomy, morphology • Distribution (data & map) • Biology and Ecology • History of spread and risk of introduction • Hosts, symptoms and natural enemies • Impact • Management 	<input data-bbox="1541 459 2094 507" datasheet="" pest\""="" type="text" type(s):="" value="\"/> 
Crop:	<p>Datasheets for over 760 crop species.</p>	<ul style="list-style-type: none"> • Identity • Distribution (data & map) • Crop Production, agronomy, breeding, uses, trade 	<input crop\""="" data-bbox="1541 730 2094 778" datasheet="" type="text" type(s):="" value="\"/> 
Natural enemy:	<p>Over 260 natural enemies of the pests are covered in full datasheets on the CPC and providing information links to the pest and host plant.</p>	<ul style="list-style-type: none"> • Identity, taxonomy and morphology • Distribution (data & map) • Biology • List of hosts • Country statistics from World Bank • Use in biological control and pesticide susceptibility 	<input data-bbox="1541 970 2094 1018" datasheet="" enemy\""="" natural="" type="text" type(s):="" value="\"/> 
Country:	<p>Datasheets covering over 480 countries and geographic regions.</p>	<ul style="list-style-type: none"> • List of Pests • Crop Production data from FAOSTAT • Pesticide trade data from FAOSTAT 	<input country\""="" data-bbox="1541 1169 2094 1217" datasheet="" type="text" type(s):="" value="\"/> 

Advanced datasheet search

The Advanced datasheet search can provide extra search functionality that allows user to limit searches further providing more specific information on distribution and behaviour of pests, diseases and crops. To access the Advanced Datasheet search click on the search tab in the top bar menu and select the Advanced Datasheet search option as shown below. Please note only full pest and crop datasheets are included in the advanced search.



The advanced datasheet search also has a code system to identify particular parts of the datasheets. This additional feature can be used for the following functions:

- Find pests and pathogens of a particular crop
- Find crops/hosts of a particular pest or pathogen
- Find pests/crops in a geographic area
- Find pests from a specific taxonomic group that attack a particular crop
- Find pests that attack a particular plant part
- Find pests that attack at a particular production or growing stage

To find these types of queries the advanced datasheet search function provides a coding system and a controlled vocabulary.

Coding system and controlled vocabulary

There are two types of code that can be used when using the advanced datasheet search. Below shows the code and the function they can perform

Datasheet code	Function
“HOS + scientific/common name of crop”	Finds all the pests and pathogens of a particular crop
“PPS + scientific/common name of pest/pathogen”	Finds all the crops/hosts of a particular pest or pathogen

The controlled vocabulary is used to specify symptoms, plant parts and stage of plant production in search queries. For a list of correct terms for these different categories please visit our [controlled vocabulary list](#).

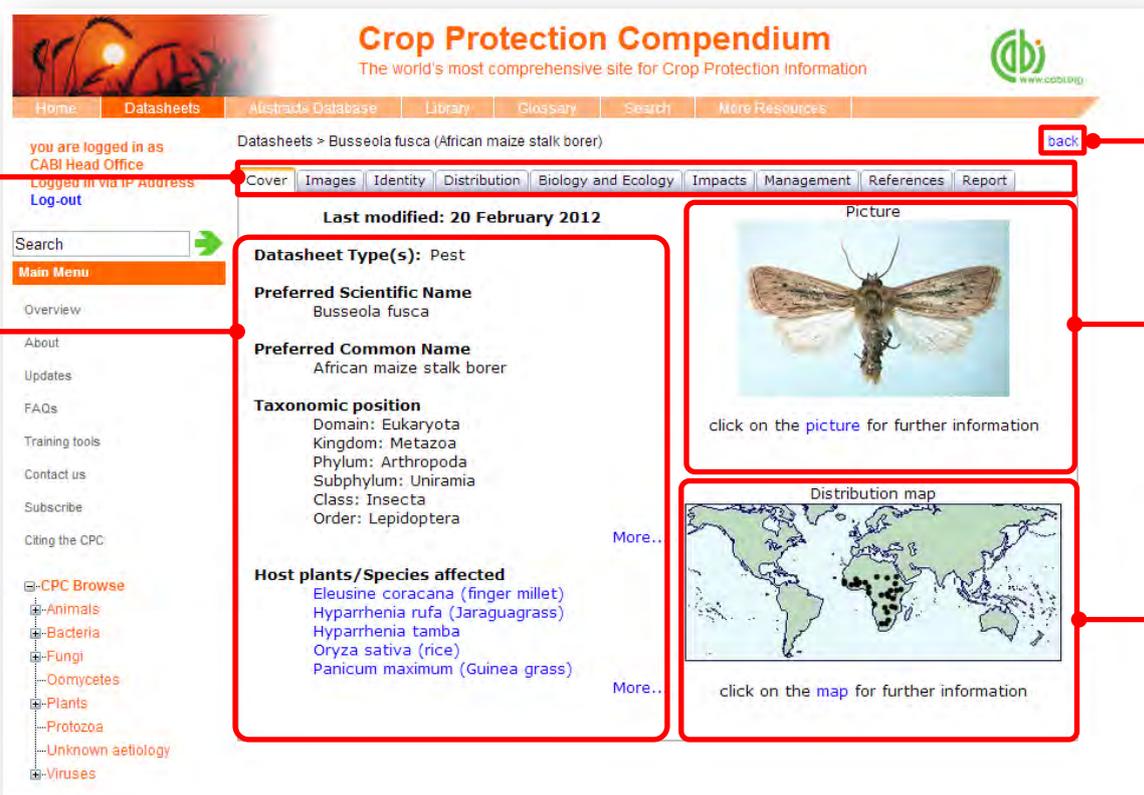
Please note that quotation marks must be used when searching using coding system and controlled vocabulary terms

The table below shows the type of specific advanced searches that can be conducted for datasheets. Each example is specific for its function but it important to notes that these techniques can be combined together to achieve more specific searches. **Please note:** Boolean operators can be used but field searching using the field tags as outlined in the site search previously cannot be used with advanced datasheet searching.

Information required	Search techniques used	Example
Pests that attack a particular crop	Datasheet code and free text index	<input data-bbox="1249 564 2040 608" type="text" value="HOS maize"/> →
Crops/hosts of a particular pest or pathogen	Datasheet code and free text index	<input data-bbox="1249 711 2040 754" type="text" value="PPS Lymantria dispar dispar"/> →
Pests that attack a particular crop in a geographic area	Datasheet code and free text index	<input and="" data-bbox="1249 842 2040 885" ghana"="" type="text" value="HOS maize"/> →
Pests from a specific that attack a particular crop from a specific taxonomic group	Datasheet code and free text index	<input and="" data-bbox="1249 946 2040 989" lepidoptera"="" type="text" value="HOS maize"/> →
Pests that attack a particular plant part	Datasheet code and controlled vocabulary	<input "stems"="" and="" data-bbox="1249 1082 2040 1125" type="text" value="HOS maize"/> →
Pests that attack a particular growing stage	Datasheet code and controlled vocabulary	<input "post="" and="" data-bbox="1249 1185 2040 1228" harvest"="" type="text" value="HOS maize"/> →

Cover page

The cover tab of the datasheet gives an overview and summary of the key scientific information relating to the subject of the datasheet. For example, below shows the cover image for the pest *Busseola fusca* which displays its preferred scientific name (African maize stalk borer), taxonomic information and list of host plants/species affected. The cover page also notes the date for the last amendments or modifications to the datasheet.



The screenshot shows the 'Cover' tab of the datasheet for *Busseola fusca* (African maize stalk borer). The page is annotated with red lines and labels:

- Pages tab:** Points to the 'Cover' tab in the navigation menu.
- Summary of key scientific information:** Points to the central content area containing:
 - Datasheet Type(s):** Pest
 - Preferred Scientific Name:** *Busseola fusca*
 - Preferred Common Name:** African maize stalk borer
 - Taxonomic position:** Domain: Eukaryota, Kingdom: Metazoa, Phylum: Arthropoda, Subphylum: Uniramia, Class: Insecta, Order: Lepidoptera
 - Host plants/Species affected:** Eleusine coracana (finger millet), Hyparrhenia rufa (Jaraguagrass), Hyparrhenia tamba, Oryza sativa (rice), Panicum maximum (Guinea grass)
- Back button:** Points to the 'back' button in the top right corner.
- Link to image bank:** Points to the 'Picture' section, which includes an image of the moth and a link: 'click on the picture for further information'.
- Link to distribution map:** Points to the 'Distribution map' section, which includes a world map and a link: 'click on the map for further information'.

Clicking on the cover image will direct you to the image bank page while clicking on the distribution map will take you to an expanded and interactive global map.

Images bank page

Clicking on the image tab will take you to the image bank for the datasheet. Here will display all the related pictures for the subject of the datasheet. Click on the image to view the full sized image and the image metadata. Once opened, pictures can be copied and pasted into other documents.

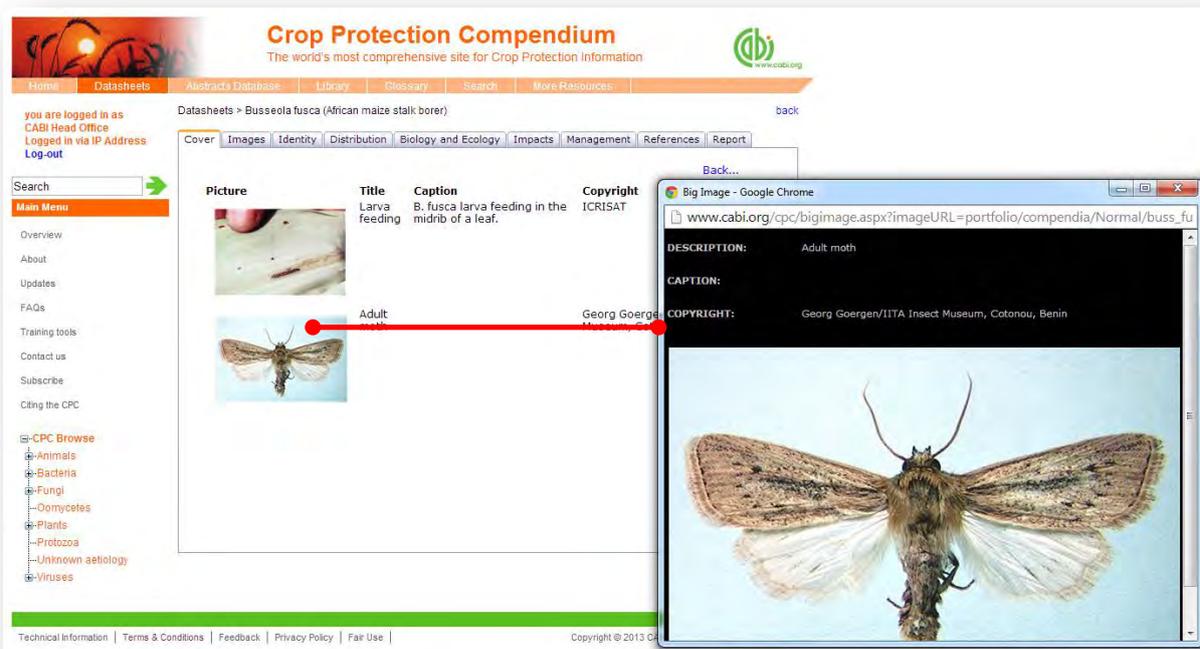


Image copyrights

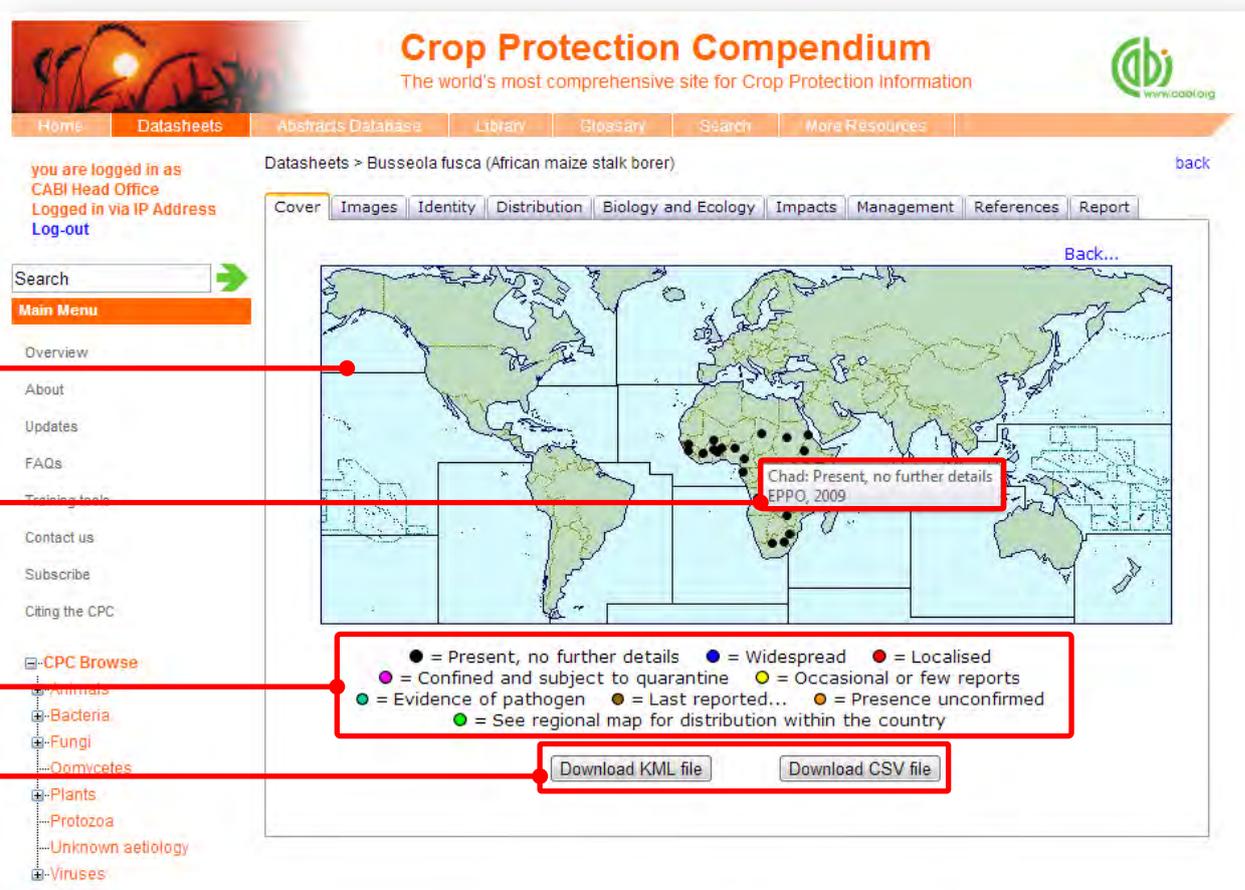
Picture copyrights are not necessarily owned by CABI. Use of illustrations, along with other materials in the Compendium is covered in the 'The Fair Use' statement. This allows use of materials in the Compendium in the making of documents tailored by the user, for example, in reports and teaching materials, so long as the reuse of the materials is not for financial gain. The contact holder should be contacted for permission to use their pictures.

Distribution maps

The distribution maps give detailed geographic data on the distribution of the datasheet subject. In full datasheets, geographic distributions have been researched by individual contributors or obtained from information provided by EPPO. Country records are based on distribution records found in academic literature.

The map below shows the distribution of the African maize stalk borer. Each distribution point/dot displayed on the map represents the location of occurrence according to an academic record. These distribution points are colour coded to indicate the nature of the occurrence and the key for this is displayed under the map image. By hovering over an individual point a statement of occurrence is displayed which indicates the country where the species is present and the status of the distribution.

NOTE: It is important to note that the absence of a record on the map does NOT necessarily mean the species is absent from that country or region, but that information for those areas may not be available.



Crop Protection Compendium
The world's most comprehensive site for Crop Protection Information

Home Datasheets Abstracts Database Library Glossary Search More Resources

you are logged in as
CABI Head Office
Logged in via IP Address
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Datasheets > *Busseola fusca* (African maize stalk borer)

Search

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 - Bacteria
 - Fungi
 - Oomycetes
 - Plants
 - Protozoa
 - Unknown aetiology
 - Viruses

Cover Images Identity Distribution Biology and Ecology Impacts Management References Report

Back...

Chad: Present, no further details
EPP0, 2009

- = Present, no further details
- = Widespread
- = Localised
- = Confined and subject to quarantine
- = Occasional or few reports
- = Evidence of pathogen
- = Last reported...
- = Presence unconfirmed
- = See regional map for distribution within the country

Download KML file Download CSV file

Continent section

Statement of occurrence

Key for distribution status

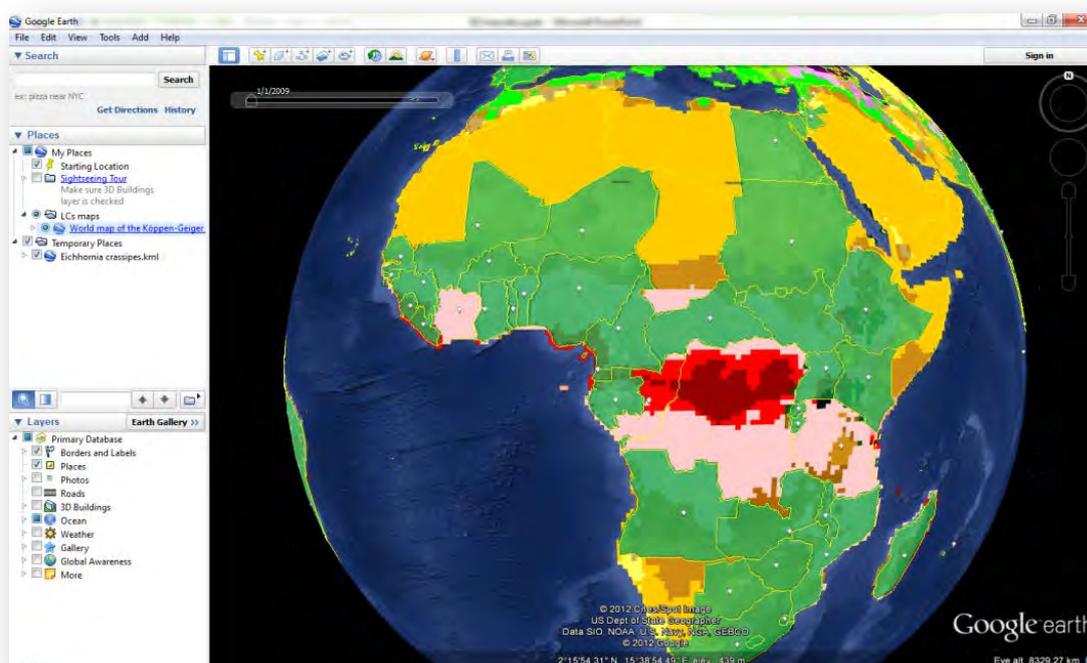
Export options

Clicking on the distribution point will display the reference from which the distribution data was sourced as shown below. These references can be printed by clicking the print button in the top right hand corner.



There are two export functions for downloading the distribution data to conduct further analysis or to upload to modelling programs. The [Download CSV file](#) button allows you to view data in a tabular format and can be used to view distribution data in Microsoft Excel.

The [Download KML file](#) button allows you to download data that can be used in mapping programs such as Google earth to view distribution data as a layer on a global map. This is particularly useful for comparing different datasets as distribution data can be overlaid on to other data maps. For example, below shows a distribution map displayed in Google Earth which has been overlaid onto a map showing the Köppen-Geiger Climate Classification.



By clicking on a continent section in the distribution map on the datasheet, a regional level map will be displayed as shown below. This will show more localised distribution data for a global region.



The distribution maps should be examined in conjunction with the Distribution table and text which provides deeper analysis of the distribution data and sources. This is

available by clicking on the **Distribution** tab found at the top tabular menu of the datasheet in question.

Datasheet report

The report function allows all components of a datasheet (texts, tables, maps and pictures) to be collated and presented as a single HTML document for printing or cutting and pasting in to other documents. This can provide users with useful printed reference materials that can be used in presentations, as study support materials or practical field reference notes. This is especially useful for users in countries or regions with limited internet access.

To access the report tool click on the **Report** tab in the top tabular menu of the datasheet. This will display the report page as shown below and allows the user to select specific information sections to create bespoke reports. The left hand column shows the title information sections available and displays the title and type of section (T = text, L = List, and M = Map). The right hand column displays the information sections you have selected to be included in your report. To include a information section in your report select the section of interest from the left hand column and click the **→** button to move it to the right hand column. To remove a section from your report simply select the section and click the **←** to remove it from your report column. The **↑** and **↓** buttons can be used to change the order of information sections in your report.

Include/
remove
individual
sections

Include/
remove
multiple
sections

Change
section
order



There are options to add or remove multiple groups of maps and information sections using the buttons as indicated above. Once you have selected all the sections you

want to be included in you report click the  [Generate Report](#) button found at the bottom right of the page.

The image below shows you the report that has been generated which is displayed as a single HTML document. The entire report can be printed using your web browser print options or by selecting “print” from the right mouse click menu. Sections of the report can also be copied across to other documents using standard copy and paste functions in the right mouse click menu. The blue highlighted text menu displayed horizontally across the top of the report provides a contents for each section of the report. These are anchored links so by clicking on the section you will be directed to the section on the HTML page.

Crop Protection Compendium

Selected sections for: *Busseola fusca* (African maize stalk borer)

[Distribution Table](#) [Hosts/Species Affected](#) [Symptoms](#) [Distribution map Africa](#)

Datasheet Type(s): Pest

Distribution Table

The distribution in this summary table is based on all the information available. When several references are cited, they may give conflicting information on the status. Further information may be available for individual references and this is displayed in the Distribution Table Details report which can be selected in the Report tab of the datasheet.

Country	Distribution	Last Reported	Origin	First Reported	Invasive	References	Notes
AFRICA							
Angola	Present, no further details					EPPO, 2005 ; CIE, 1988	
Benin	Present, no further details					EPPO, 2005 ; CIE, 1988	
Burkina Faso	Present, no further details					EPPO, 2005 ; CIE, 1988	
Burundi	Present, no further details					EPPO, 2005 ; CIE, 1988	
Cameroon	Present, no further details					EPPO, 2005 ; CIE, 1988	
Chad	Present, no further details					EPPO, 2005 ; CIE, 1988	
Congo Democratic Republic	Present, no further details					EPPO, 2005 ; CIE, 1988	
Cote d'Ivoire	Present, no further details					EPPO, 2005 ; CIE, 1988	
Eritrea	Present, no further details				Not invasive	Hull, 1988 ; Hull, 2002	
Ethiopia	Present, no further details					EPPO, 2005 ; CIE, 1988	
Ghana	Present, no further details					EPPO, 2005 ; CIE, 1988	
Guinea	Present, no further details					EPPO, 2005 ; CIE, 1988	
Kenya	Present, no further details					EPPO, 2005 ; CIE, 1988	
Lesotho	Present, no further details					EPPO, 2005 ; CIE, 1988	
Malawi	Present, no further details					EPPO, 2005 ; CIE, 1988	
Mozambique	Present, no further details					EPPO, 2005 ; CIE, 1988	
Nigeria	Present, no further details					EPPO, 2005 ; CIE, 1988	
Rwanda	Present, no further details					EPPO, 2005 ; CIE, 1988	
Senegal	Present, no further details					EPPO, 2005 ; CIE, 1988	
Sierra Leone	Present, no further details					EPPO, 2005 ; CIE, 1988	
Somalia	Present, no further details					EPPO, 2005 ; CIE, 1988	
Tanzania	Present, no further details					EPPO, 2005 ; CIE, 1988	

Lists and intuitive linking

One of the aims of the Compendium is not to be just a flat, encyclopaedic reference, but to offer dynamic linking to influence problem solving and information gathering. Different datasheets have been designed to accumulate useful lists of related information that are specific to each datasheet type. Below shows a table for the relevant lists that are available for each datasheet type.

Intuitive linking has been used in the compendia to link content across different lists. Where the list contains content that has its own datasheet a link is provided which is displayed as blue underlined text. For example, the image below shows that our report on African maize stalk borer includes a list of host species that are affected by the pest. By clicking on the species [Eleusine coracana \(finger millet\)](#) we are directed to a datasheet for the species *Eleusine coracana* (finger millet).

Host Plants and Other Plants Affected

Plant name	Context
Eleusine coracana (finger millet)	Other
Hyparrhenia rufa (Jaraguagrass)	Wild host
Hyparrhenia tamba	Wild host
Oryza sativa (rice)	
Panicum maximum (Guinea grass)	
Pennisetum glaucum (pearl millet)	
Pennisetum purpureum (elephant)	
Rottboellia cochinchinensis (itch)	
Saccharum officinarum (sugarca)	
Sorghum bicolor (sorghum)	
Sorghum bicolor subsp. verticillif	
Sorghum halepense (Johnson gr)	
Zea mays (maize)	



Crop Protection Compendium
The world's most comprehensive site for Crop Protection information

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CPC Browse

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- Oomycetes
- Plants
- Protozoa
- Unknown etiology
- Viruses

Datasheets > Eleusine coracana (finger millet)

Cover | Images | Identity | Distribution | Crop Production | References | Report

Last modified: 15 May 2008

Datasheet Type(s): Crop, Host Plant

Preferred Scientific Name: Eleusine coracana

Preferred Common Name: finger millet

Taxonomic position

- Domain: Eukaryota
- Kingdom: Plantae
- Phylum: Spermatophyta
- Subphylum: Angiospermae
- Class: Monocotyledonae
- Order: Cyperales
- Family: Poaceae

Uses

Finger millet grain is used for food, for malting and brewing, and for animal feed. For use as food, the grain is ground and the resulting flour cooked to prepare a thin or thick porridge or baked into a flat (unleavened) bread or pancake. In some parts

Picture



click on the picture for further information

Distribution map



click on the map for further information

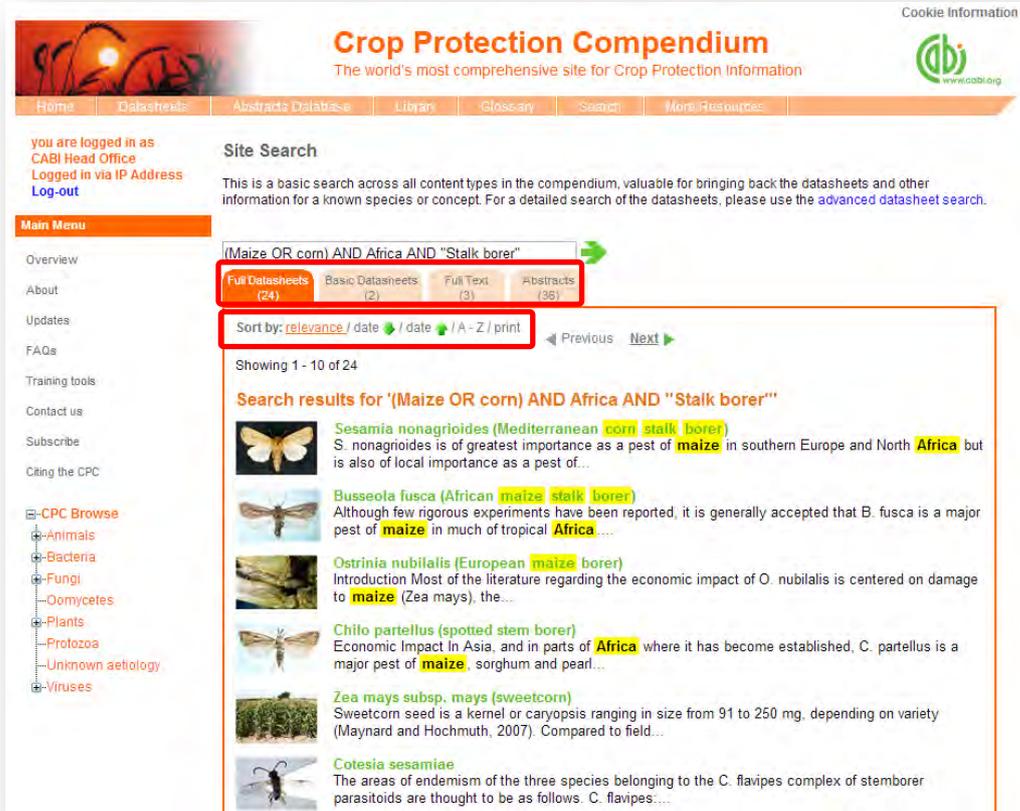
Conducting simple site searches for Abstracts and Full Text

CPC offers a simple site search. A variety of basic search techniques can be used to search content across the whole of the database. To conduct a simple search enter your search statement into the quick search box on the homepage. The table below shows the various basic search techniques and operators that can be used:

Search technique	Example	Description	Function	Reason to use
Single word search	<input type="text" value="Maize"/> →	Search databases using a single word term	Returns a broad range of results for a particular word/topic	Provides a broad overview of a scientific area of interest
Boolean search	<input type="text" value="Maize OR corn AND Africa"/> →	Search databases using the operators AND, OR and NOT	Performs searches on multiple concepts that provides specific keyword searching for an area of interest that can include or exclude other concepts.	Allows the user to conduct more controlled searching. Can be used to omit homophones
Phrase searching	<input type="text" value='Maize OR corn AND Africa AND "Stalk borer"'/> →	Use quotation marks before and after a multiple word phrase	Returns results only containing the entire phrase	Narrows searching to records that only contain the whole phrase
Parentheses	<input type="text" value='(Maize OR corn) AND Africa AND "Stalk borer"'/> →	Searches databases using keywords, Boolean operators and parentheses.	Used for searches that contain multiple Boolean operators to define the correct search logic	Refines searches with Boolean operators further to provide limited search results
Wild cards	<input type="text" value='(Maize OR corn) AND Africa* AND "Stalk borer"'/> →	Uses the symbols * and ? in keyword search	Using the * returns results with different word stems for the root word Using the ? symbol allows users to specify unknown characters	The * allows users to broaden results to keywords with differing word stems e.g. pop* = popular, population, etc. The ? returns results using a keyword that may differ in spelling

Organising results display

The returned search results are displayed in the results box. By clicking on the various tabs from the tabular menu at the top of the results box you can browse the results by material type. The darker coloured tab indicates the type of results that are currently displayed.



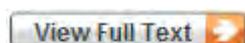
The screenshot shows the Crop Protection Compendium search interface. The search query is "(Maize OR corn) AND Africa AND \"Stalk borer\"". The results are sorted by relevance. The first result is "Sesamia nonagrioides (Mediterranean corn stalk borer)". Other results include "Busseola fusca (African maize stalk borer)", "Ostrinia nubilalis (European maize borer)", "Chilo partellus (spotted stem borer)", "Zea mays subsp. mays (sweetcorn)", and "Cotesia sesamiae".

Additionally, you can sort the display of datasheet records by their publication date or by title. There is also the option to print the list of search results for future reference. To do this click on the relevant options [relevance](#) / [date](#) / [date](#) / [A - Z](#) / [print](#)

The display box shows an article header for each record. For datasheets, a short description is supplied. For other database records, the type of bibliographic information displayed in the article header may vary depending on the type of material viewed but generally will include:

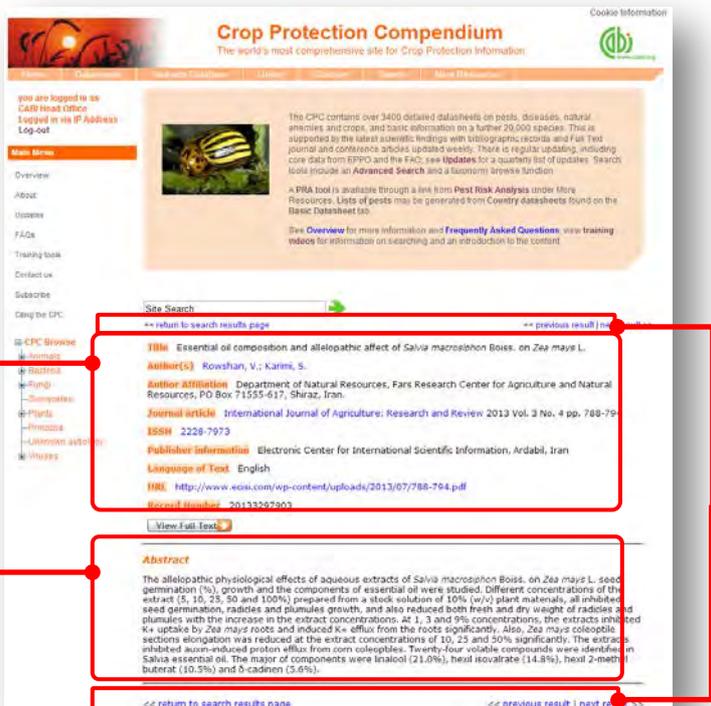
- Record title
- Authors
- Author affiliation
- Journal title
- Date of publication
- Source data (i.e. journal number, page number)

If CABI hosts the full text article of the record also displayed will be the [View Full Text](#) button. Click this link through to a PDF of the full text article.



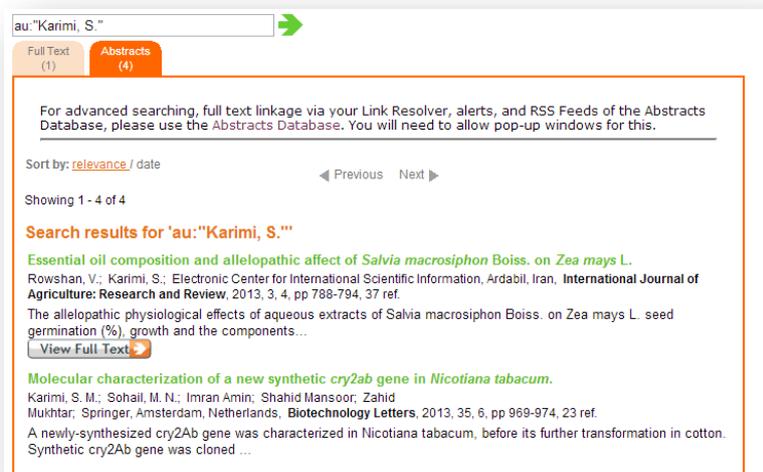
Viewing records

To view the full details of the article record conduct a search and click on the green title displayed in the results box. This will direct you to the individual record page where the complete bibliographic information is listed including the full abstract summary (see example below). Again the [View Full Text](#) is also displayed on this page if the full text article is available.



The screenshot shows the article record page for the article: "Essential oil composition and allelopathic affect of *Salvia macrosiphon* Boiss. on *Zea mays* L." by Rowshan, V.; Karimi, S. The page includes bibliographic data such as the journal title, ISSN, and publisher information. The abstract is also visible. Red lines and dots highlight specific elements: "Bibliographic data" points to the title and author information; "Abstract" points to the abstract text; and "Scrolling options for records" points to the navigation links at the bottom of the record.

As you can see from the example above some of the bibliographic information is displayed as blue linking text. For example in the Author field [Karimi, S.](#) is displayed. This different colour text indicates intuitive linking so that when clicked it runs a further search for that keyword limited to its associated field. This can be useful to find more relevant content, such as articles written by the same author as shown in the example below.



The screenshot shows search results for the query "au:Karimi, S.". The search results are sorted by relevance. The first result is "Essential oil composition and allelopathic affect of *Salvia macrosiphon* Boiss. on *Zea mays* L." by Rowshan, V.; Karimi, S. The author name "Karimi, S." is highlighted in blue, indicating it is a clickable link. The second result is "Molecular characterization of a new synthetic cry2Ab gene in *Nicotiana tabacum*." by Karimi, S. M.; Sohail, M. N.; Imran Amin; Shahid Mansoor; Zahid Mukhtar; Springer, Amsterdam, Netherlands; *Biotechnology Letters*, 2013, 35, 6, pp 969-974, 23 ref. The author name "Karimi, S. M." is also highlighted in blue.

Advanced searching

Field searching

The search box for the CPC also allows users to conduct advanced field searching using the index field tags.

Field searching is a technique by which users can search for keyword terms in specific indexing fields that are used when adding a bibliographic record to CABI's database e.g. Abstract title, author. Each indexing field has an associated field tag which can be used in conjunction with search keywords to return a more precise set of results. Below is a list of the indexing fields and their associated:

Common search fields

Description	Field Tag
Article title	title
Author	author
Abstract	ab
Author affiliation	aa
Descriptor	de
Organism Descriptor	od
Geographic Locator	gl
Broad term	up
Identifier	id
Subject term	subject
Publication source	do
Publisher	publisher
CABICODE	cc
Conference	ct
Language	la
Publication type	it
Year	yr
Record number	pa
DOI	oi
ISSN	sn
ISBN	bn

Additional search fields

Description	Field Tag
Additional Authors	ad
Author Affiliation	aa
CAS Registry Numbers	ry
Conference Dates	cd
Conference Title	ct
Corporate Author	ca
Country of Publication	cp
Descriptors	de
Digital Object Identifier	oi
Document Editors	ed
Document Title	do
Email	em
English Item Title	et
Non English Item Title	ft
Geographic Location	gl
Identifiers	id
ISBN	bn
ISSN	sn
Item Type	it
Language(s) of Summary	ls
Language(s) of Text	la
Location of Publisher	lp
Main Abstract	ab
Organism Descriptors	od
Pan Number	pa
Personal Author	au
Personal Author Variants	av
Publisher	pb
CABI Product Code	sc
Up-posted Descriptors	up
Web URL	ur
Year of Publication	yr

To conduct a field search type the associated field tag (**NOTE: these must be lowercase**) into the quick search box followed by a colon. Next enter your search term/s. Field searching can also be conducted using the variety of simple search techniques outlined previously such as multiple word searches using Boolean operators. Below show some examples:

Single word search: ➔

Multiple word search: ➔

Searching with phrases: ➔

To conduct field searches using the advanced search more simply and to access other advanced features users can [access the CAB Direct platform](#).

Index Terms or “Descriptors”

If you are looking only for important papers on a particular subject, where you want a high level of relevance, you should restrict your search to one or more of the CABI indexing or Descriptor fields. Every record on the database is indexed with terms that describe all the important concepts within a paper. The index terms may be added to one of 5 different indexing fields. The indexing fields that CABI uses are:

Fields	Tags	Description	Example
Organism Descriptor	od:	The Organism Descriptor field is used for animal and plant names	od: maize
Geographic Location	gl:	Geographic Location field is used for country and other geographic names	gl: Germany
Descriptor	de:	The Descriptor field is used for all the “other” terms that are neither animal, plant nor geographic	de: herbicides
Broad Term (Up-posted Term)	up:	The broad term is used to search for more general terms of a subject as defined in CAB Thesaurus	up: pesticide
Identifier	id:	This field is used for non-controlled index terms; terms that do not appear in the CAB Thesaurus such as new species or chemicals	id: cryptochrome

Please note: When searching the organism descriptor All animals, except for commonly managed livestock like Cattle, Sheep, Goats, etc., are indexed with their scientific names. However, plants are indexed with both their scientific and their common names

Super indexes

Super indexes allow users to search multiple indexes across related fields. They are useful tools for users if they are unsure which fields they need to specify when trying to conduct advanced field searching. They can be searched in the same way as other fields as the super indexes have their own field tag associated to them. CPC also has three super indexes.

The first two super indexes shown in the table below are used when searching bibliographic information relating to either the article title or the article authors. The table below shows the field tag, field indexes that are searched and an example of a search.

Super index field tag	Fields searched	Example
title:	English title Foreign title	<input type="text" value="title: maize"/> →
author:	Personal author Author variant Additional author Document editor Corporate author	<input type="text" value="author: Letcher"/> →

The third super index called the subject index is used when searching for the indexing terms or metadata that is recorded or assigned to each resource record. The table below shows the field tag, field indexes that are searched and an example of a search.

Super index field tag	Fields searched	Example
subject:	Descriptor Geographic location Organism descriptor Identifier	<input type="text" value="subject: GMO"/> →

CABICODES

In addition to adding index terms to a record, broad concepts are also “indexed” with a classification system known as CABICODES. The CABICODES are a hierarchical list of classification codes that divide the subject coverage of the CAB ABSTRACTS database into 23 major sections. Each section then includes a series of codes that divides that subject into more specific subjects. The codes themselves are typically used to code for subjects that would be difficult to describe with keywords alone. These CABICODES shown below display all the CABICODES for Plant sciences and their associated topic area. For a full list of CABICODES and their topic areas visit the [CABICODE list](#).

FF000: Plant Science (General)	FF400: Mycorrhizas and Fungi of Economic Importance; Symbiotic Nitrogen Fixation (Discontinued March 2000)
FF003: Horticultural Crops (New March 2000)	FF500: Weeds and Noxious Plants
FF005: Field Crops (New March 2000)	FF600: Pests, Pathogens and Biogenic Diseases of Plants (Discontinued March 2000)
FF007: Forage & Fodder Crops (March 2000)	FF610: Viral, Bacterial and Fungal Diseases of Plants (New March 2000)
FF020: Plant Breeding and Genetics	FF620: Plant Pests (New March 2000)
FF030: Plant Morphology and Structure	FF700: Plant Disorders and Injuries (Not caused directly by Organisms)
FF040: Plant Composition	FF800: Plant Toxicology
FF060: Plant Physiology and Biochemistry	FF900: Environmental Tolerance of Plants
FF061: Plant Nutrition	
FF062: Plant Water Relations	
FF100: Plant Production	
FF150: Plant Cropping Systems	
FF160: Plant Propagation	
FF170: <i>in vitro</i> Culture of Plant Material	

The CABICODES can be searched just like any other field tag. Two field tags are assigned to the CABICODE field and these are described below. Please note, as other field tags these must be entered in lowercase.

Field tag	Definition	Example
cc:	Allows users to search the index of the alphanumerical assigned code e.g. LL010	cc:FF003
cabicode:	Allows users to search both the alphanumerical assigned code index as above and the CABI code title index e.g. Apiculture	cabicode:FF003 or cabicode:horticultural

Accessing CAB Direct

Subscribers to CPC also have access to the CAB Direct interface for advanced functionality. Please note the CAB Direct database includes all Abstracts and full text documents but does not index datasheets. Such advanced features on the CAB direct platform include:

Advanced Searches: The complex search power of the CAB Direct search engine allows users to conduct complex searches and refine results by field type

Saving and combining searches: MyCABDirect allow users to save commonly used search strings for easy reference. The combine features also allows users to refine records performed across two searches.

Selecting and saving records: Mark and save records for future reference or export, print or share selections

Alerts and RSS feeds: Create automatic e-alerts or RSS feeds from your saved searches for weekly updates of the latest research

Export options: Export records to a reference management software or download as selected articles as MARC records

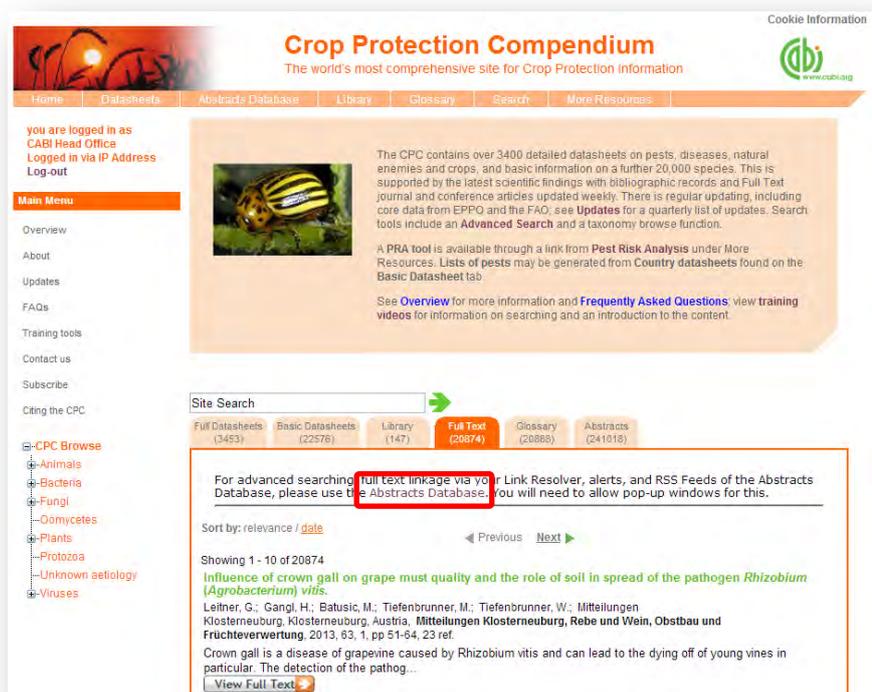
Integrated full text linkage: Integrate your full text holdings listed in your library catalogue via your Link Resolver

There are two ways to access the CAB Direct platform from the CPC. Either:

1. Click on the  button in the top menu



- From the Full Text Abstracts tabs in the result display box select the Abstracts database link (shown below)

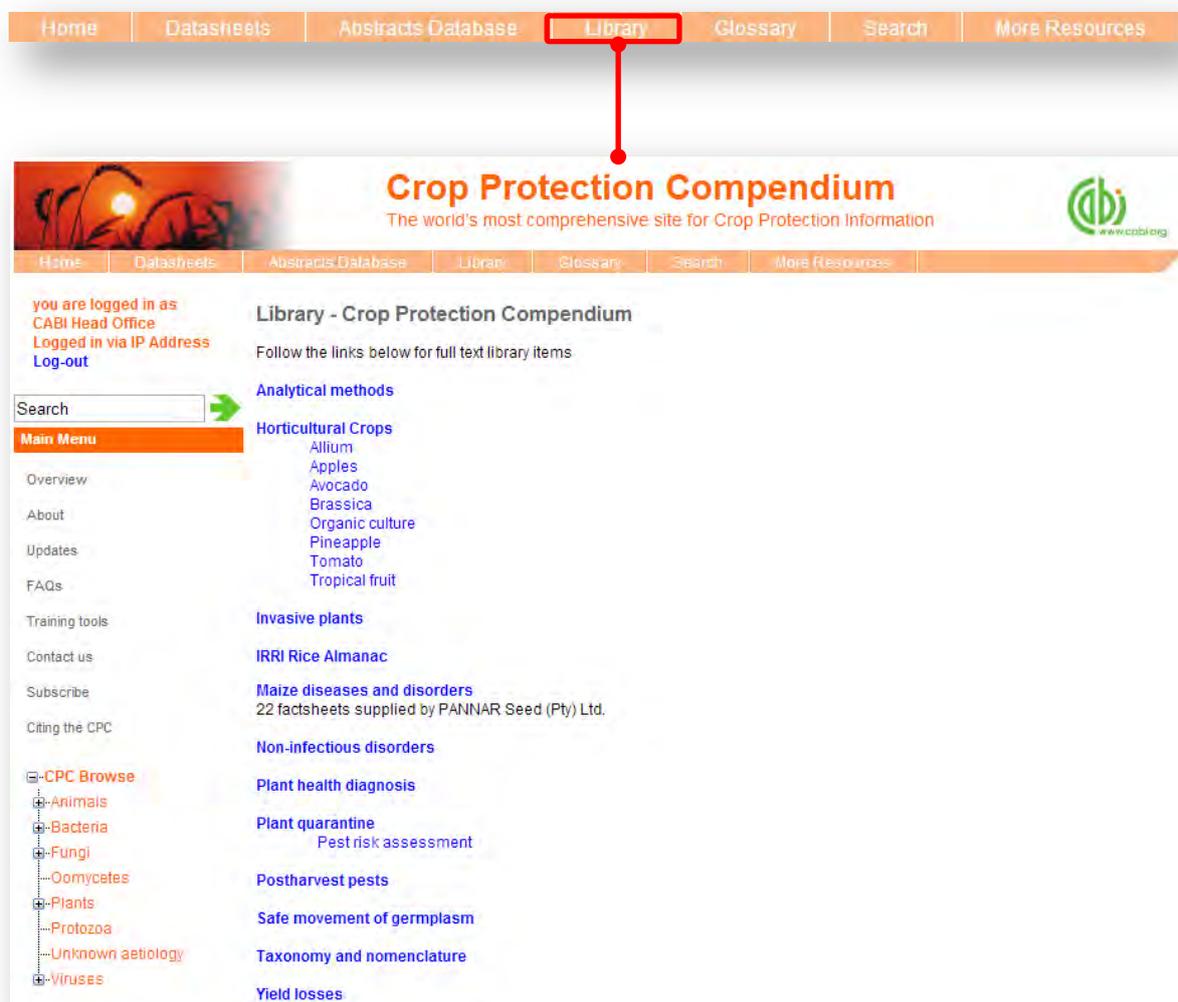


The screenshot shows the Crop Protection Compendium website. The main navigation bar includes Home, Datasheets, Abstracts Database, Library, Glossary, Search, and More Resources. A user is logged in as CABI Head Office. The main content area features a search bar and a navigation menu. Below the search bar, there are tabs for Full Datasheets (3453), Basic Datasheets (22576), Library (147), Full Text (20874), Glossary (20886), and Abstracts (241016). The search results for 'Full Text' are displayed, showing a list of results. The first result is titled 'Influence of crown gall on grape must quality and the role of soil in spread of the pathogen *Rhizobium (Agrobacterium) vitis*'. The text below the title describes the pathogen and its impact on grapevines. A 'View Full Text' button is visible at the bottom of the result box.

The CAB Direct search interface is also the subject of a separate more advanced set of video tutorials and user guides. For more information on how to perform these advanced features visit the [CAB Direct user guide](#).

Library

The library page includes documents that have been compiled by experts and includes specially commissioned and previously published information resources from internationally recognized sources. Clicking on the Library link in the top bar menu directs you to the Library contents page as shown below.



The screenshot shows the CABI Library page. At the top, there is a navigation bar with links: Home, Datasheets, Abstracts Database, Library (highlighted with a red box and a red arrow pointing down), Glossary, Search, and More Resources. Below this is the main header for the 'Crop Protection Compendium', with the tagline 'The world's most comprehensive site for Crop Protection Information' and the CABI logo. A secondary navigation bar is also present. The main content area is titled 'Library - Crop Protection Compendium' and includes a search bar, a 'Main Menu' with links like Overview, About, Updates, FAQs, Training tools, Contact us, Subscribe, and Citing the CPC, and a 'CPC Browse' section with expandable categories: Animals, Bacteria, Fungi, Oomycetes, Plants, Protozoa, Unknown aetiology, and Viruses. The right side of the page lists various subject categories: Analytical methods, Horticultural Crops (Allium, Apples, Avocado, Brassica, Organic culture, Pineapple, Tomato, Tropical fruit), Invasive plants, IRRI Rice Almanac, Maize diseases and disorders (22 factsheets supplied by PANNAR Seed (Pty) Ltd.), Non-infectious disorders, Plant health diagnosis, Plant quarantine (Pest risk assessment), Postharvest pests, Safe movement of germplasm, Taxonomy and nomenclature, and Yield losses.

The library contents page is split in to subject specific categories which when clicked conducts a search for that subject area for a selection of full text records.

The image below shows the Library page for the topic “Allium”. We can see that the page uses a predefined search string to return the required results for this topic.



The screenshot shows the Crop Protection Compendium website. The search bar contains the query '(sc:fq OR sc:ft) Horticultural crops Allium'. The search results are displayed in a table with columns for Library (14), Full Text (225), and Abstracts (225). The first result is 'FAO/IPGRI Technical Guidelines for the Safe Movement of Germplasm. No. 10. Allium spp.' by Diekmann, M., published by the Food and Agriculture Organization of the United Nations (FAO) in Rome, Italy, 1997, pp 62 pp., many ref. The second result is 'Agronomy of onions.' by Bosch Serra, A. D., Currah, L., published by CABI Publishing, Wallingford, UK, Allium crop science: recent advances, 2002, pp 187-232, many ref.

To limit the searches further users can simply add keywords to the search string to refine the results returned. For example, by using the Boolean operator AND and adding the term “mould “ to the end of the search string as shown below we can return more relevant results.

Custom library page search string

(sc:fq OR sc:ft) Horticultural crops Allium →

Added term to refine results

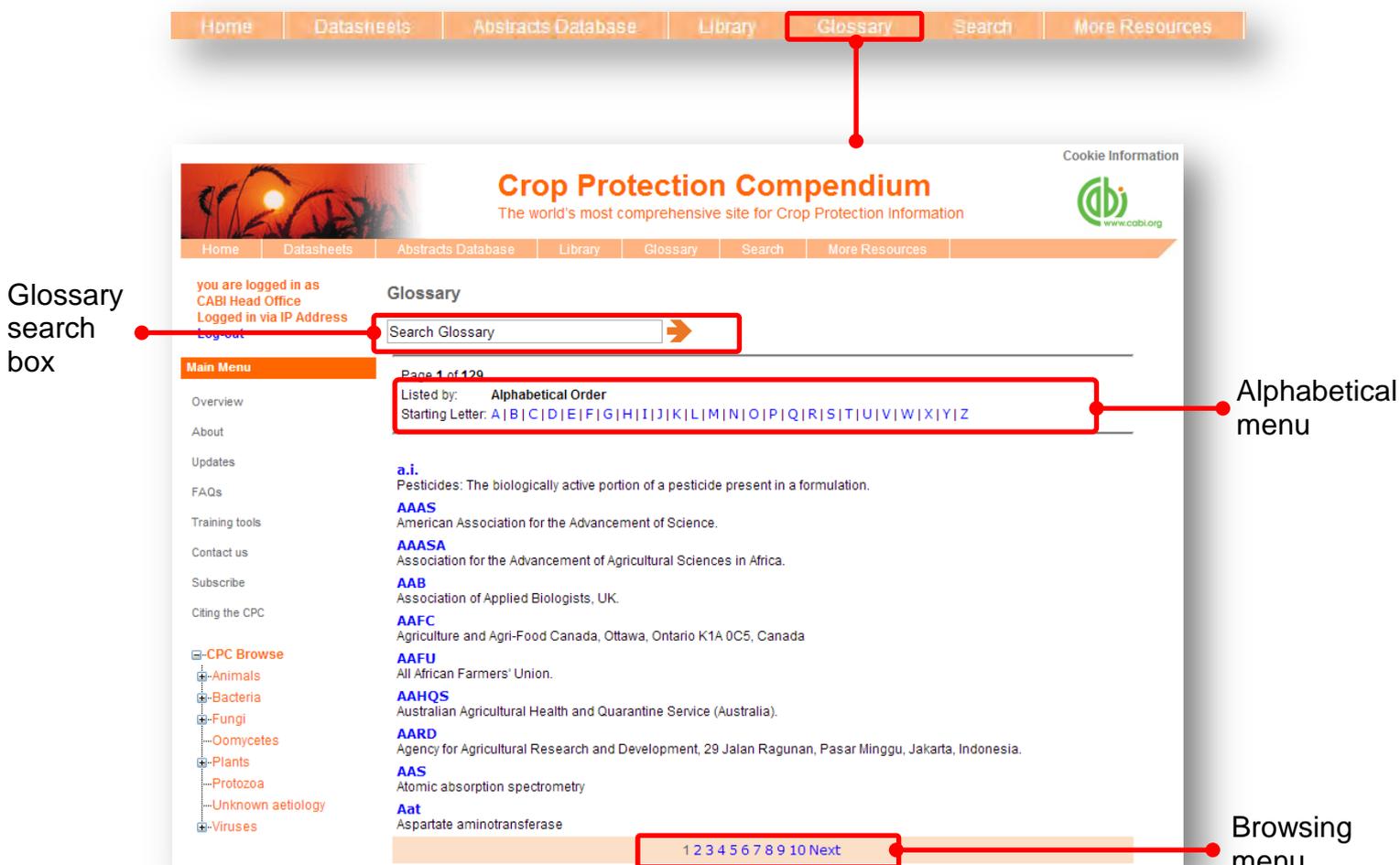
(sc:fq OR sc:ft) Horticultural crops Allium AND mould →

Glossary

The glossary is a comprehensive source of vocabulary covering scientific terms used in crop production and crop protection. It includes data on pesticides and biopesticides from The Pesticide Manual and The Manual of Biocontrol agents published by the British Crop Protection Enterprises (BCPE). The 2005 FAO Glossary of Phytosanitary Terms has been included which covers terminology in English, French and Spanish. Other sources include CABI's Dictionary of Forestry and the Society of American Foresters (SAF) Dictionary.

Searching the glossary

Below shows the glossary page which is accessed from the top bar menu. To search the glossary you can either use the search box at the top of the page or the alphabetical menu to scroll through terms by letters.



The screenshot shows the 'Glossary' page of the Crop Protection Compendium. The top navigation bar includes 'Home', 'Datasheets', 'Abstracts Database', 'Library', 'Glossary', 'Search', and 'More Resources'. The 'Glossary' link is highlighted with a red box and a red line pointing to the page title.

On the left side, a 'Main Menu' is visible with links for Overview, About, Updates, FAQs, Training tools, Contact us, Subscribe, and Citing the CPC. Below this is a 'CPC Browse' section with a tree view of biological groups: Animals, Bacteria, Fungi, Oomycetes, Plants, Protozoa, Unknown aetiology, and Viruses.

The main content area is titled 'Glossary' and shows 'Page 1 of 120'. It includes a search box labeled 'Search Glossary' with a red arrow pointing to it from the label 'Glossary search box'. Below the search box is an 'Alphabetical menu' showing 'Listed by: Alphabetical Order' and 'Starting Letter: A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z', with a red box around the letters and a red line pointing to it from the label 'Alphabetical menu'. The first entry is 'a.i. Pesticides: The biologically active portion of a pesticide present in a formulation.' followed by various acronyms like AAAS, AAASA, AAB, AAFC, AAFU, AAHQS, AARD, AAS, and Aat.

At the bottom of the page, there is a 'Browsing menu' with a red box around the numbers '1 2 3 4 5 6 7 8 9 10 Next' and a red line pointing to it from the label 'Browsing menu'.

When searching using the glossary search box note that wild cards * and ? can be used to help locate terms that may be difficult to find. Including an * in your term returns results with different word stems for the root word e.g. gene* will return results for records mentioning gene, genes, genetic, genealogy etc. ? allows users to specify unknown characters which are particularly useful for words with multiple spellings e.g. organi?ation returns results for records that mention organization and organization.

When searching the glossary using the alphabetical menu click on the letter which is the first letter of the term you are searching for. You can then scroll through the list of results using the browse menu at the bottom of the page by clicking either the [Next](#) button or the numerical page.

More resources

The More Resources section of the site provides links to an extensive range of external websites and databases that may be of use to researchers and practitioners associated with crop protection and crop production. These also include global and country specific resources with links into

The lists are topic specific and cover a range of different topics and reference materials including:

- ID keys
- Image libraries
- Pest Distribution Data
- Pest Risk Analysis (links to a PRA tool)
- Plantwise Plant Health News (up-to-date news on plant health)

To access a list of resources for each topic area simply hover over [More Resources](#) tab in the top bar menu and click on the relevant area of interest as shown below. A list of resources and a brief description will then be displayed.



The screenshot shows the Crop Protection Compendium website. The top navigation bar includes links for Home, Datasheets, Abstracts Database, Library, Glossary, Search, and More Resources. The 'More Resources' dropdown menu is open, showing options for ID Keys, Image Libraries, Pest Distribution Data, Pest Risk Analysis, and Plantwise Plant Health News. The main content area features a beetle image and text describing the CPC's resources, including a PRA tool and search functions. The bottom of the page shows a search bar with the query 'au:"Karimi, S."' and a table of search results for Full Datasheets (3453), Basic Datasheets (22576), Library (147), Full Text (20874), Glossary (20888), and Abstracts (241018). A 'Sort by: relevance / date / date / A - Z / print' menu and 'Previous / Next' navigation buttons are also visible.