

Beginners Guide to MORPH4

About This Guide

This guide introduces you to MORPH4 and shows you where to find information to help you with horticultural decision support. It covers installing and using MORPH4 and leads you through an example of its use in disease forecasting.

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What is MORPH4?

MORPH4 is a software framework that helps you to use simulation models. The simulation models distributed by Warwick-HRI provide you with decision support for a range of crop management issues encountered in horticulture. They include assessment of the risks of pest and disease attack, advice on nutrition requirements and prediction of harvest times. Most of the models need information about weather - past, present or future and so MORPH4 makes it easy to connect your weather data to the models.

MORPH4 System Requirements

Software

To use MORPH4 you will need a computer with one of the operating systems listed below as well as Internet Explorer 5.1 or higher.

- Windows 2000 Service Pack 4
- Windows XP Service Pack 2.

Please note that as Windows 98 and Windows NT are being phased out by Microsoft we do not have the ability to test the software on these platforms and so do not list them as recommended operating systems for MORPH.

Hardware

- PC with 300 megahertz or **higher** processor clock speed recommended;

- 128 megabytes (MB) of RAM or **higher** recommended (64 MB minimum supported; may limit performance and some features)
- Super VGA (800 x 600) or higher-resolution video adapter and monitor
- CD-ROM or DVD drive (if installing from CD)
- 100MB of free hard disk space*
- Keyboard and Mouse

* Additional hard disk space required for met data and additional space may be required for additional models.

Downloading and Installing MORPH4

MORPH 4 is on the Warwick-HRI web site <http://www.warwick.ac.uk/go/morph>, Take care to read and follow the instructions for downloading and installing. Once you have downloaded the software to your computer, you need to go through the process of installing it before it is ready to use. Find the file named setup.exe on your hard drive and double-click to begin installation. The InstallShield Wizard will then guide you through the setup. If you have used MORPH previously you must uninstall it, the notes in the installation instructions explain how to remove previous versions of MORPH from your computer.

Starting MORPH4 to try an example

On the start menu click on All Programs > MORPH 4>MORPH 4.



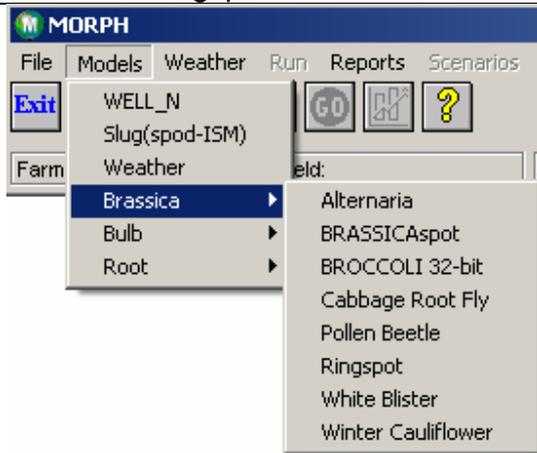
A toolbar will appear which means that MORPH4 is ready for use.



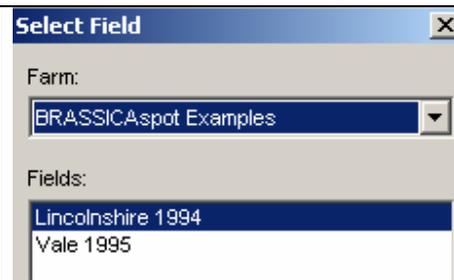
Working through the example

The following section shows you how to run a model to find the risk of infection of your Brassica crop by the disease Ringspot. To make the example realistic we have set up an imaginary farm called “Brassica Spot Examples” which has 2 fields (actually containing regional weather data in this example).

To choose Ringspot, click on Models> Brassica>Ringspot



Another dialogue box will appear. Use the  to find the appropriate farm and click on it. You will then see a list of the names of all the fields in that farm. Click on a field to select it.



The bottom of the toolbar will change to show the model and the field selected

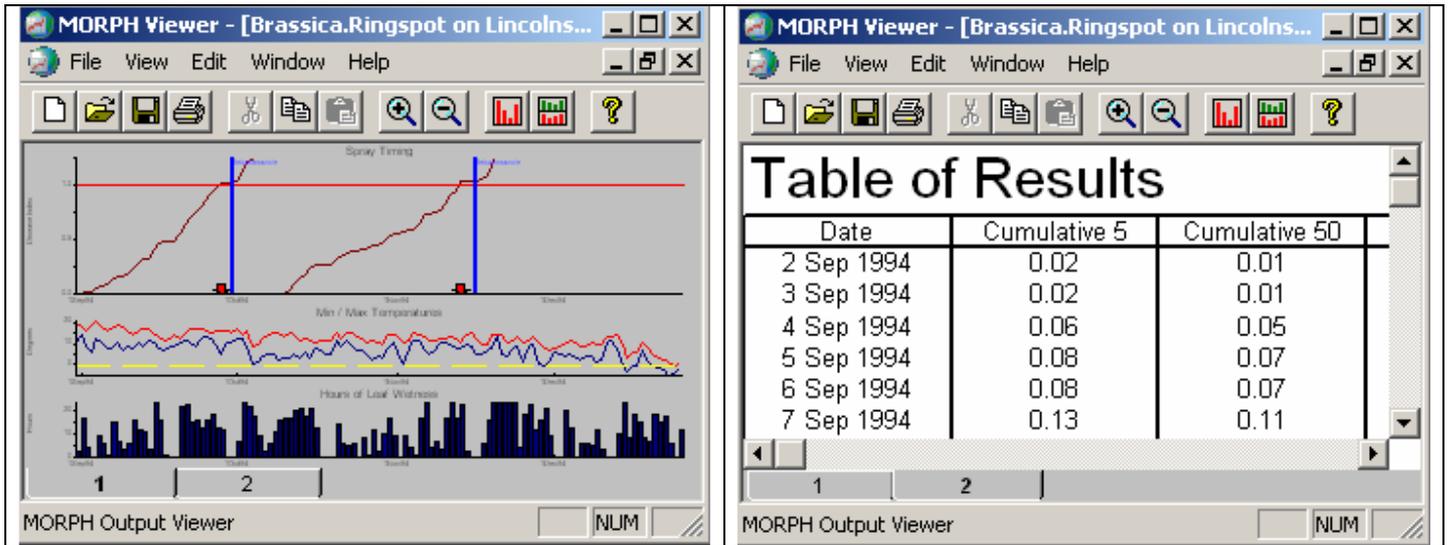


Now click on  to inspect the weather data. This will display an example of the type of data needed to run disease models.

Now run the model by clicking on the  button on the toolbar

The MORPH Viewer will open to show your results as a graph and as a table.

Click on Tab 1 at bottom of screen to show graph | Click on Tab 2 to show table



Where to get more help

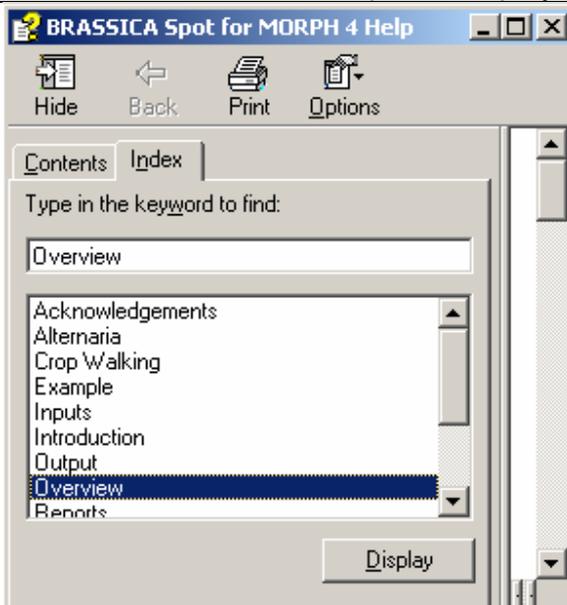
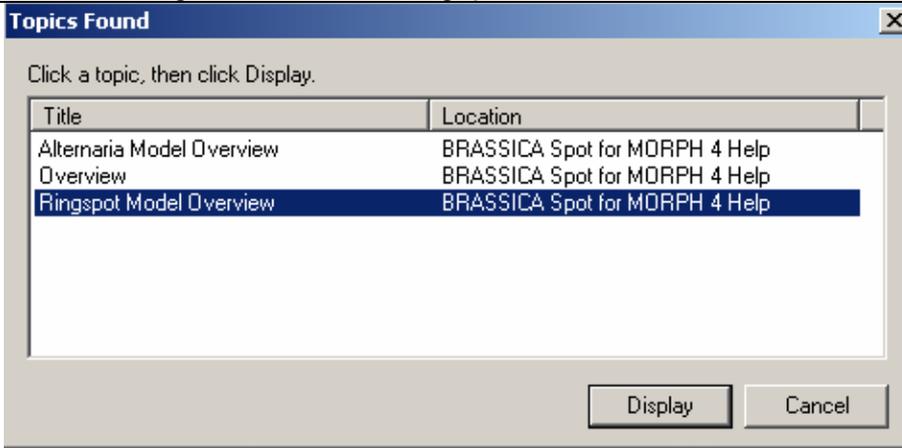
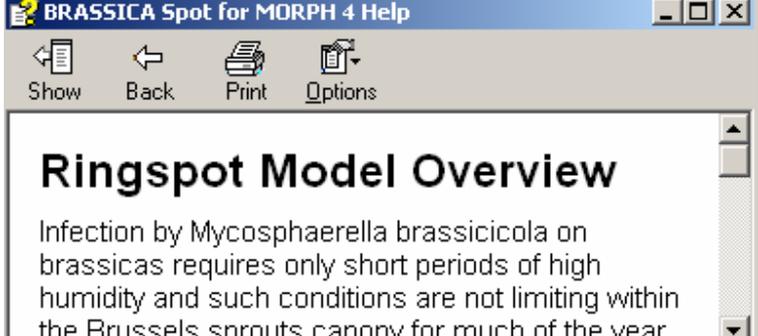
On the toolbar, click on . Many pages of help about the MORPH4 framework will now be available to you. Click on the underlined links in these pages to take you to other relevant pages.

Click on the Contents tab for a list of pages. Use the and symbols to expand and contract lists. Click on the page name to open it.

Click on the Index tab to search for key words. Click on a key word to select it and then press .

MORPH4 is packaged with comprehensive help facilities and a large set of examples. Each of the models is described in detail and the many abilities of the MORPH framework are described.

To get more information about the Ringspot model used in the worked example, choose BRASSICAspot Help from the Help button on the toolbar.

<p>Select Overview and then press Display</p> 	<p>In next dialogue box, select Ringspot Model Overview</p>  <table border="1"> <thead> <tr> <th>Title</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>Alternaria Model Overview</td> <td>BRASSICA Spot for MORPH 4 Help</td> </tr> <tr> <td>Overview</td> <td>BRASSICA Spot for MORPH 4 Help</td> </tr> <tr> <td>Ringspot Model Overview</td> <td>BRASSICA Spot for MORPH 4 Help</td> </tr> </tbody> </table>	Title	Location	Alternaria Model Overview	BRASSICA Spot for MORPH 4 Help	Overview	BRASSICA Spot for MORPH 4 Help	Ringspot Model Overview	BRASSICA Spot for MORPH 4 Help
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<p>Many pages of information about Ringspot will appear e.g.</p>									
 <p>Ringspot Model Overview</p> <p>Infection by <i>Mycosphaerella brassicicola</i> on brassicas requires only short periods of high humidity and such conditions are not limiting within the Brussels sprouts canopy for much of the year.</p>									

Contacts

We hope you have found this brief guide useful. Please check our web site www.warwick.ac.uk/go/morph for current information about MORPH. For help with the software, email: morph.support@warwick.ac.uk