FlyBoss Flystrike Risk Simulator

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Contents

FlyBoss Flystrike Risk Simulator

This program estimates the risk of flystrike for a given location then makes adjustments for management options such as shearing, crutching, breech modification, and chemical preventive treatments.
It can optimise the timing of chemical treatment, compare two different management systems and test the effect of breeding for reduced breech strike.

Brief Instructions for FlyBoss Flystrike Risk Simulaor

The first step is to select the strike risk for the location of your property. If the program has not already selected your location, then use “Select a stored Flystrike File” to load the correct file.

If you don’t have the required flystrike file available you can download one for your location from the internet.

The program will display a graph showing the estimated risk of strike throughout the year at that location if no management is used to control strike. The relative risk of body strike, breech strike and other strike will be shown.

Now you can go to the Wool tabsheet to indicate your usual time of shearing and crutching and whether your sheep are mulesed, while the Chemicals tabsheet allows you to enter one or two chemical treatments.

After you have entered a chemical, you will have an option to optimise the timing of that treatment.

Some chemicals are registered for use only for body strike or only for breech strike or provide protection for both. The program allows you to select one of these options if there is a choice.

The Scores tabsheet allows you to enter breech wrinkle, breech cover, dag scores and fleece rot for your current flock.

The Breeding tabsheet lets you test the effect of breeding to change breech wrinkle, breech cover and dag score. You can estimate how much change is required to allow a reduction of pesticide treatment, or how much you need to reduce breech scores to allow you to stop mulesing.

FlyBoss provides general information only and cannot replace a good professional adviser who is familiar with your property and its management. However, by using FlyBoss you may be able to use a professional adviser more effectively by concentrating on the most important issues.

See the FlyBoss website for more information on the control of flystrike.
http://www.flyboss.com.au/sheep-goats/

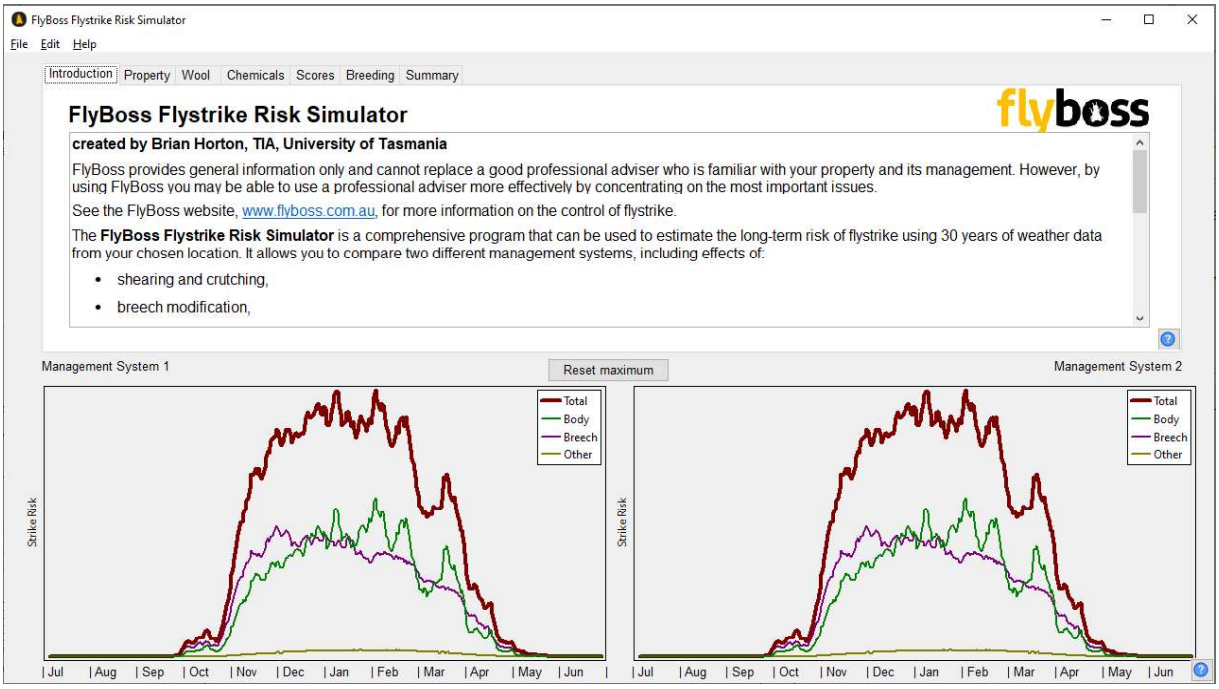
Introduction

The first screen has some brief information for first time users to explain what the program does and why it has two graphs for two management systems.

Click on the Property tab to start work.

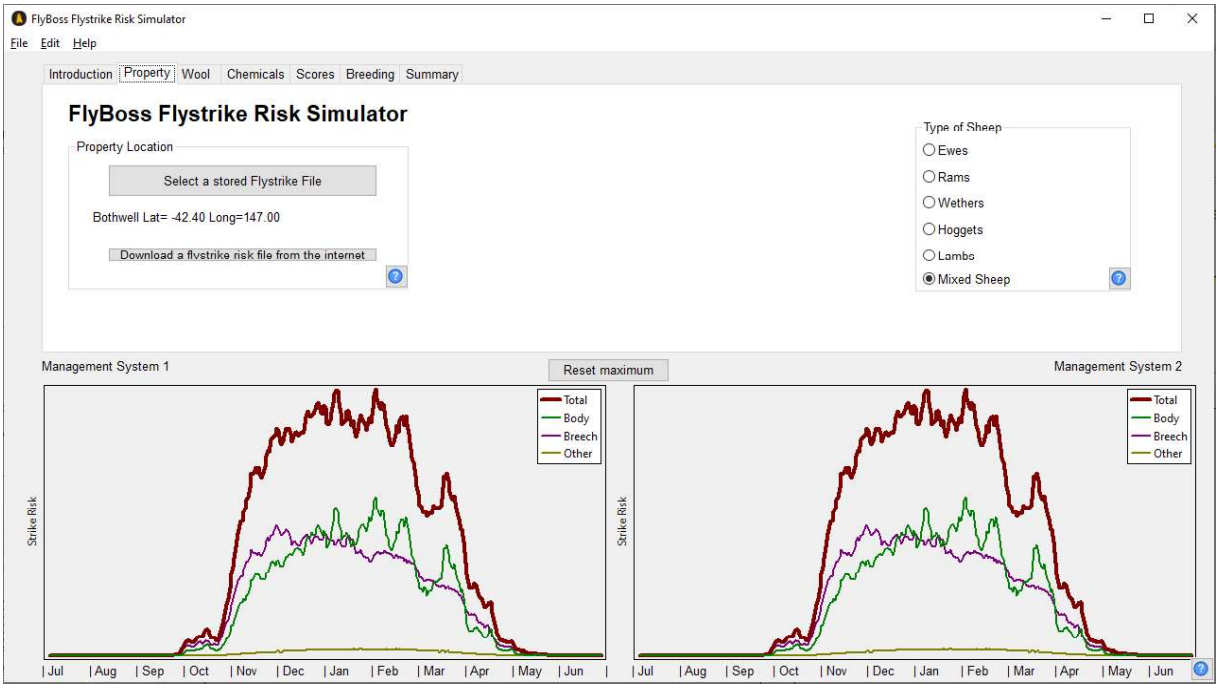
If the window is too small to read on your computer then click on the button to maximize the window to fill the full screen.

If the window is too large and overflows off the edge of your screen then the same button may let you exactly fill the screen, or you can drag the edges in to fit on your screen. The breech score entry windows have OK buttons near the bottom. If you can't click on those you can't store the data on those screens.



Property

When the program starts it will usually load a location file automatically, but you have the choice of selecting a different flystrike file if that is not the correct one.



Click on the 'Select a stored Flystrike File' to change to a different location file.
The program will show the files available. If none of them are for the location you want, then you will need to download a new flystrike risk file for the location you want.

If you have selected a location, the program displays a strike risk graph for that location and some extra tabs that you can click on for other functions. You can click on these in any order. The logical order is usually left to right.

You can select a different location file at any time from the Property tab.

Click on the 'Download a flystrike risk file from the internet' for a new location.
This will take you to a website where you can select a location where you need to know the flystrike risk. You will need to find the nearest location with data available, usually within 5 km of the location you have selected. Enter a name for the property or location and this will become the first part of the filename. Save it on your computer in your Documents directory in the FlyBoss subdirectory, since the program always looks there first for flystrike risk files.

Type of sheep

Click on ewes, rams, wethers, hoggets or lambs as required and only select "mixed sheep" to run tests for the whole property with all types of sheep at once.

The Graphs

The graph below the tab sheets shows the risk of strike through the annual cycle, after allowing for any management options you have entered. The graph on the left is for Management System One (usually your current management), and on the right for Management System Two (any change in management you might be considering).

The program cannot calculate the number of sheep likely to be struck because that varies enormously from one farm to another. What it does show is the risk at one time of the year relative to the risk at any other time. So look for the periods when the graph is high. These are periods when the sheep are at risk and not protected by bare skin, short wool or by chemical.

The graph shows an average over many years. In any single year the flystrike risk varies dramatically from one week to another. However, for long term planning you need to know which periods are most likely to have high risk and which periods rarely have a high risk of flystrike. Then you can see the effect of management on those high and low risk periods.

Reset Maximum

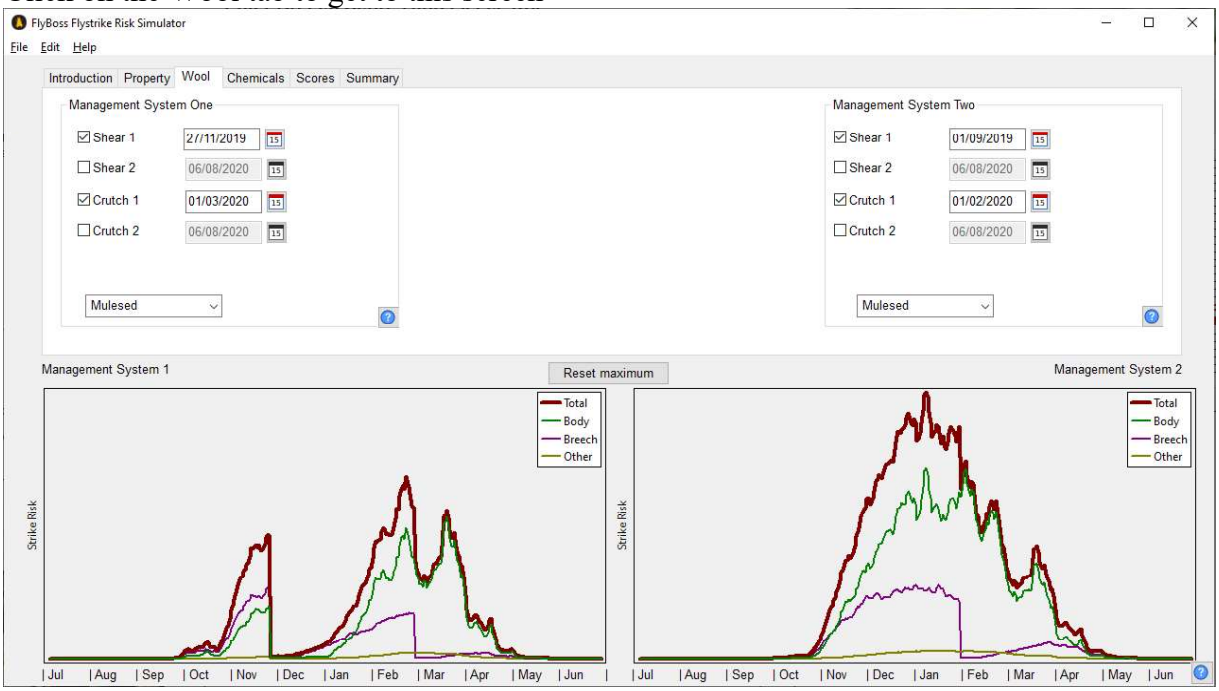
The program resets the maximum at any time the graph would have gone off the top of the screen. But this means when you change to a low risk system, the graph may be hard to read. There is a button in the centre above the graphs to reset the maximum. When you click this, the graph will be redrawn to fill the available area.

The maximum setting applies to the highest value for total flystrike during the year.

Both graphs always have the same scale, so you can make direct comparisons between Management System One and Two.

Wool

Click on the Wool tab to get to this screen



Management System One and Management System Two
Normally you should complete details for Management System One, then use the same process for Management System Two. Then make any changes necessary to compare management system one with two.

Shearing
If you want to test the effect of a specific shearing time then click on the box next to "Shear 1" or "Shear 2". This will activate the shearing date selector. You can have 0, 1 or 2 shearings each year.

If the date selector is active, click on the down arrow to bring up the selector and select a date. Click on the left and right arrows to change months. The program assumes that your management system is the same every year, so it totally ignores what year you are in. Only the day and month matter. So you can move back and forth in the months in either direction without worrying about whether crutching and treatment are before or after shearing.

Click on a date to select it. This will close the date selector.

If you deselect "Shear 1" and "Shear 2" then the program assumes long wool at all times of the year. This allows you to see the risk of strike without any complications caused by shearing time.

When you deselect "Shear" the date is stored even though it is not active. So when you select "Shear" again, the date used previously takes effect until you change it. There is no way to blank out a date, you just select or deselect by clicking on the corresponding checkbox.

Crutching
The same process applies to crutching, with 0, 1 or 2 crutchings

Click on the box next to "Crutch 1" or "Crutch 2" then select the required date. You can have Crutch 1 and Crutch 2 in any order and you can have Crutch 2 active without Crutch 1.

When you deselect a crutching (or shearing) it does not forget the date, it just inactivates it. So you can have two alternative crutching dates and flick between them by switching Crutch 1 & 2 on and off as required.

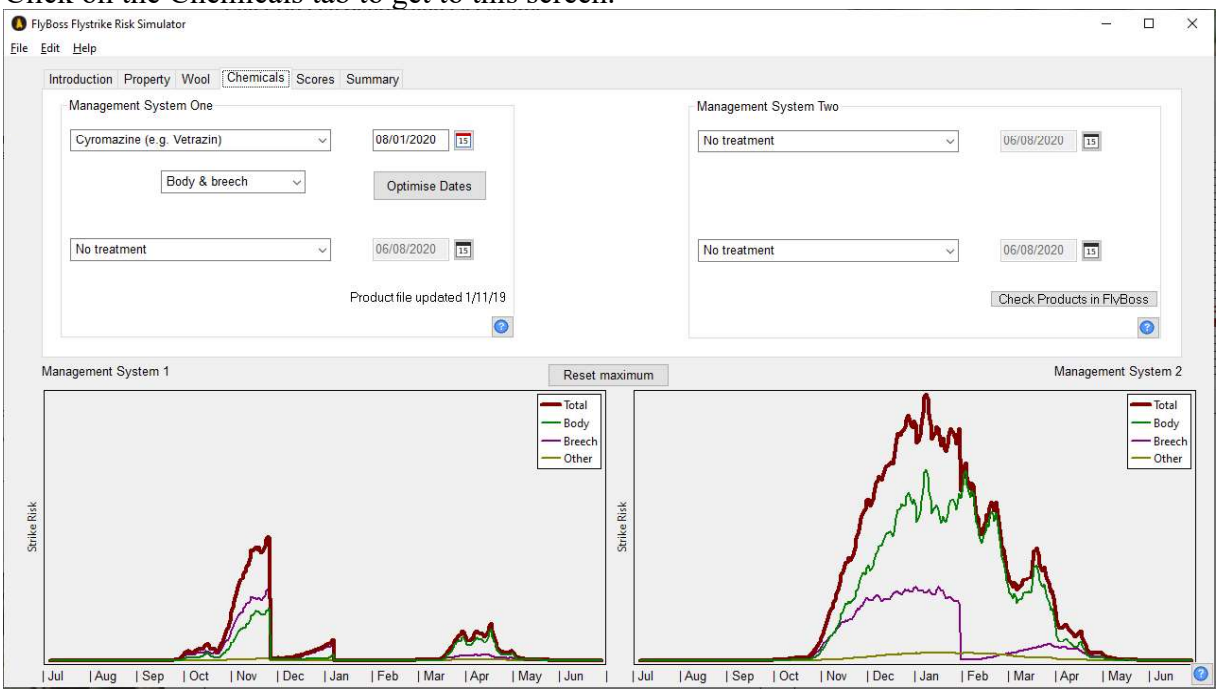
Breech Modification
Select the breech modification you wish to use (mulesed, unmulesed, clips or intradermal.

If you select "Not mulesed" then the risk of breech strike is increased about 6-fold compared with the risk for mulesed sheep. Body strike and other strike are not affected.

If you select "Clips" or "Intradermal" then breech strike is intermediate between the risk for mulesed and unmulesed sheep. This is an approximation that will be used until better data is available.

Chemicals

Click on the Chemicals tab to get to this screen.



Select a chemical from the list in the boxes or select “No treatment”. You can enter two separate chemical treatments.

When you select any chemical group then the date selector is activated so you can indicate when the treatment will be applied.

Dicyclanil can be used for protection from both body strike and breech strike, or body strike only or breech strike only. The program will offer the same choice of applications.

Cyromazine is registered for body strike + breech strike or for body strike only, but not registered for breech strike only, so there are only two choices.

Ivermectin and Spinosad are only registered for body strike and breech strike together (but not either alone) and SPs are only registered for body strike so the drop-down box for these methods of treatment is disabled but will display the registered option.

Some products are not registered for use within a certain period after shearing (6 weeks for cyromazine and 2 months for SP). If you choose a treatment too soon after shearing the program show a warning message that this is not a permitted treatment time.

For products that are registered for application within 6 weeks after shearing they either state that the protection is reduced if applied within this period, or published studies have shown reduced protection for applications soon after shearing or crutching. If the application is on the day of shearing then the protection period is reduced to 70% of the normal period, with a linear increase to the normal period of protection for application 42 days after shearing. A similar reduction of protection applies for breech strike protection within 42 days after crutching.

You can select a second chemical treatment if required. You can even have a second treatment without having a first treatment, since you might want to flick between two alternatives to compare them.

If you choose a date that is too close to the next shearing a message will appear warning you that you have not allowed enough time between treatment and shearing for the wool harvesting interval for this chemical group. This may often come up as soon as you select the chemical before you have even touched the date selector, because it already has a date in it. In that case just go ahead and choose the right date and the message will probably go away. The program does not warn about meat withhold periods because it has no idea when you sell the sheep.

If you choose a treatment date that is a short period before a crutching date then the “Fleece” tab will display a warning that you are crutching the sheep while the chemical is still active so you are losing some benefit of the treatment. You can still do this since you may need to crutch the sheep at that time, but you just need to be aware that the only protection from breech strike after that date is due to the crutching not to the chemical

Optimise Dates

After you have entered a chemical treatment, a new button appears, ‘Optimise Dates’.

If you click on this button then the program will use the chemical treatment entered, but test all possible dates of application. It will find the application date that will give the lowest overall risk of strike with the shearing and crutching management selected. Of course this date may not actually be suitable for other management reasons.

This button is not available if no chemical treatment has been entered, since it only optimises the date for the type of treatment that has been selected. Although the button is placed close to the first chemical selection it appears if either the first or second chemical option (or both) have been chosen within a given management system

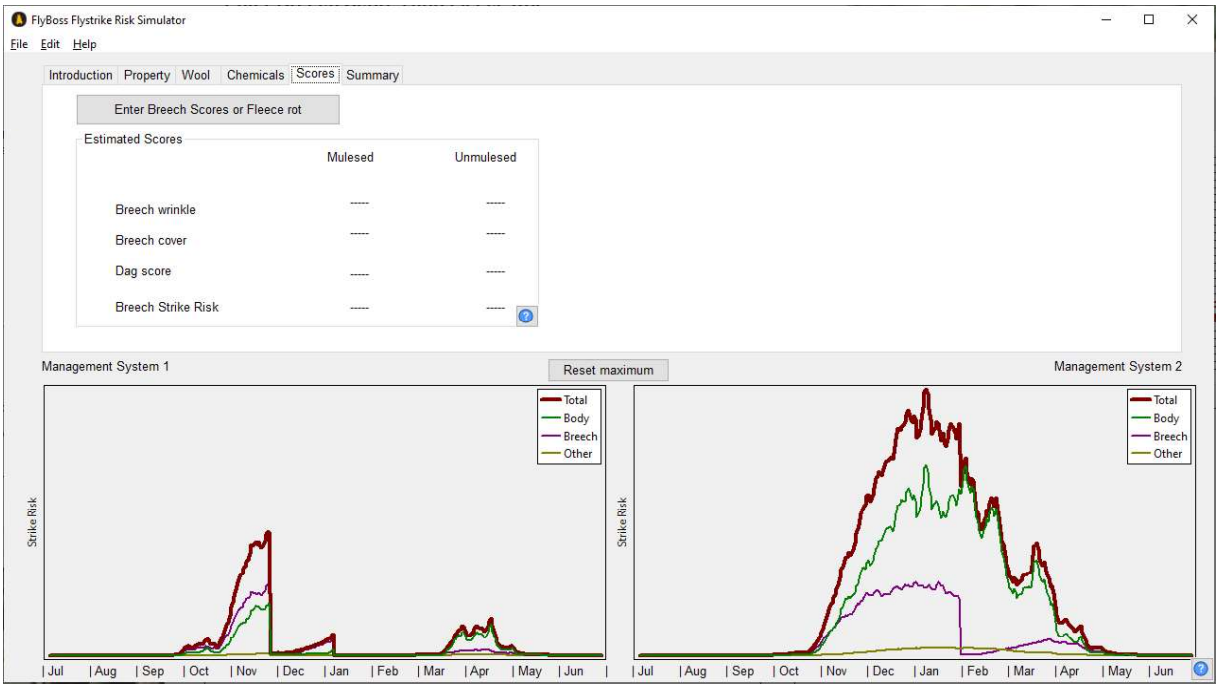
There are separate buttons to optimise Management System One and Two.

If you have two chemical treatments selected, then it will adjust the application dates of both, testing all possible days of the year for each method to find the best method of combining those treatments. On slow computers this may take some time (365 x 365 treatment dates available) so be careful when using this option. Don’t assume your computer has frozen if it appears to be doing nothing, just wait until the graph refreshes when it has finished.

Check Products in FlyBoss

If you are not sure what chemicals you might need, you can find a full list of all chemicals available for control and prevention of flystrike on the FlyBoss website.

Scores

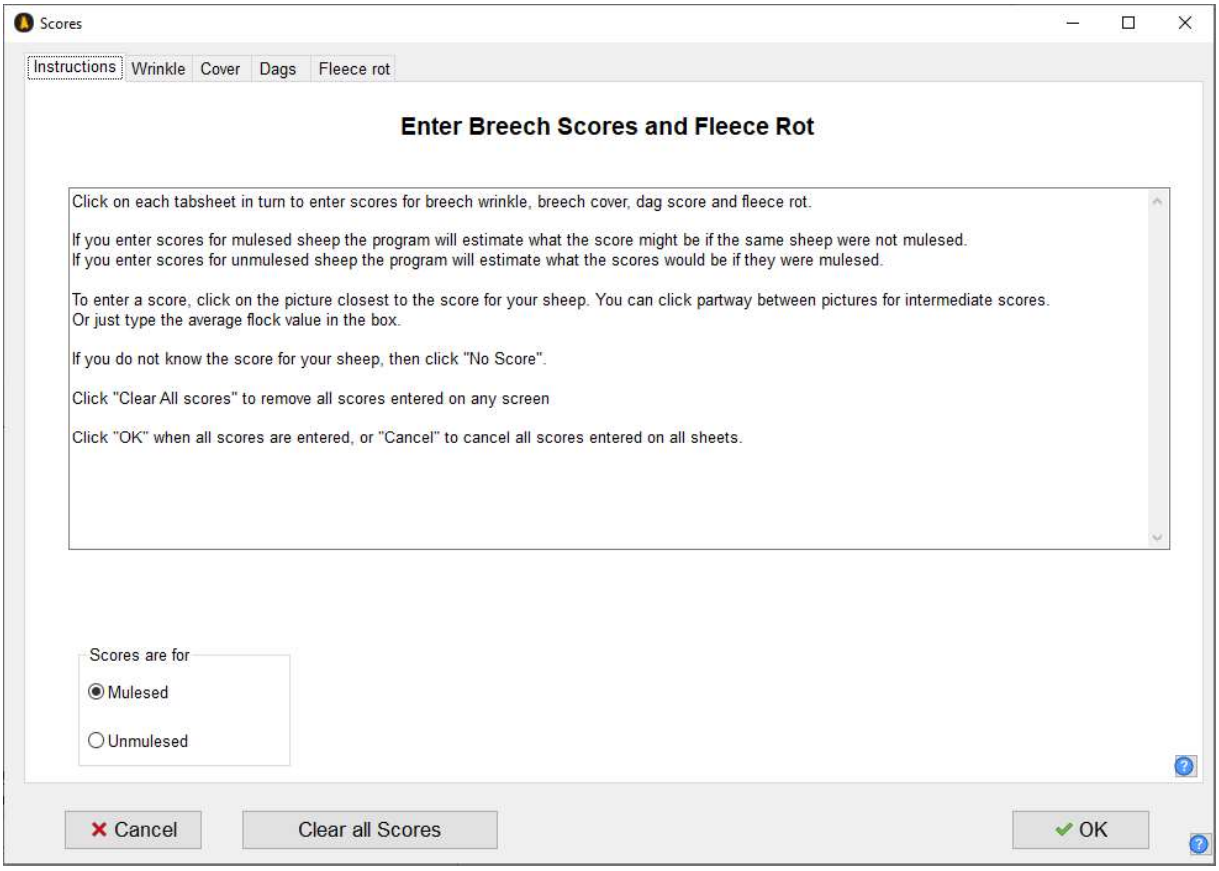


If there is no information about the type of sheep the program will assume that the risk of breech strike in unmulesed sheep is 6 times higher than in mulesed sheep. You can fine-tune this ratio by entering or estimating the actual breech wrinkle, breech cover and dag scores for the flock being considered. These scores are used by the Breeding tabsheet to show the effect of any changes in scores.

When you have entered scores for breech wrinkle, breech cover and dag they are shown on the above screen. You can enter values for either mulesed or unmulesed sheep and the program will estimate the scores in unmulesed or mulesed respectively. If you have all three types of score entered, the program will estimate the proportion of the flock at risk of breech strike in each case. This calculation can only be done when all scores have been entered.

Click on “Enter Breech Scores of Fleece rot”
This opens a new window, with tabs at the top for scores.

Enter Breech Scores and Fleece Rot



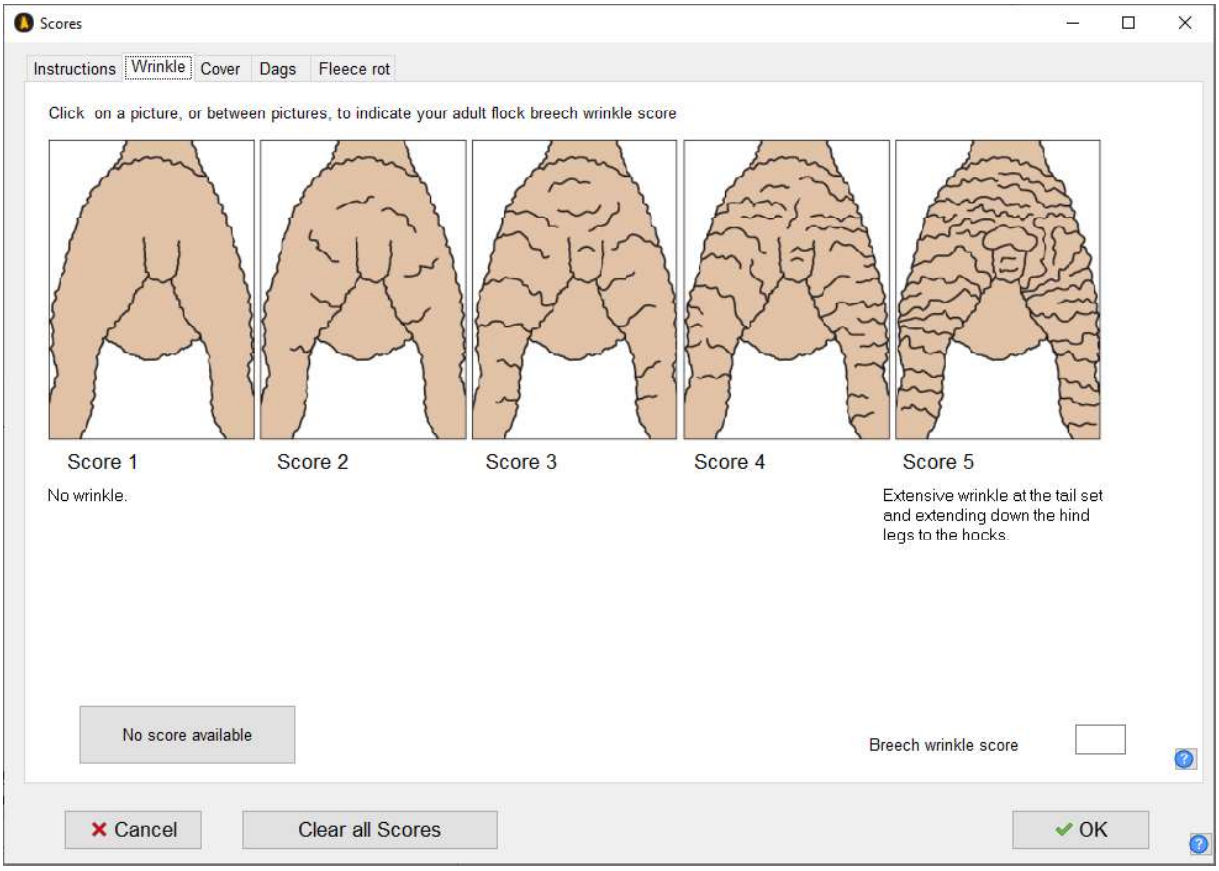
The first screen provides some brief instructions about how you enter the scores, by clicking on the picture that represents the average of your flock. You can click partway between the centres of the pictures to enter fractional scores.

If you cannot see the OK button at bottom right then move or maximise the window or adjust its size so that the full window is visible. The values entered here are only stored when you click OK.

Before you go on, indicate whether the scores you are going to enter are for mulesed or unmulesed sheep.

Then click on the Wrinkle, Cover, Dags or Fleece rot tabs at the top of the screen.

Wrinkle scores



To enter a score for Breech Wrinkle you have several options. The easiest is to click on one of the pictures that represents the average body wrinkle for your flock. This will enter the score in the box at lower right. Click inside the picture section, not on the descriptions.

If you click exactly in the middle of a picture you will get the exact score shown for that picture. If you click to the left or right of centre you will get a score slightly lower or higher than the exact value for that picture. So if you click on the Score 3 picture but close to the left edge of that picture you will get about 2.6 and if you click near the right edge you will get 3.4. If you click on the margins between the score 2 and score 3 pictures you will get 2.5. Changing the vertical position has no effect as long as you are inside the picture frame.

There is no score lower than 1 or higher than 5, so clicking to the far left gives 1.0 and to the far right gives 5.0.

If you don't want to click on the pictures you can click on the box in the lower right and just type in any number (between 1.0 and 5.0).

All the pictures function in the same way, allowing you to enter your flock average score by clicking in the appropriate place on a picture for the required trait. If you reach a tabsheet where you do not have a known score for your flock then click "No score available" to clear any score shown.

Click on other tabsheets to enter scores for other traits. When you finish all score entry then click on OK. If you made errors and do not want to enter scores then click "Cancel" and the program will ignore any scores you entered on any tabsheet, restoring whatever scores had

been entered previously (if any). Clicking No Score available clears only the score on the active tabsheet, not on other tabsheets you have already used.

If you do want to clear all the entries you have made on all the tabsheets relating to breech scores then click on Clear all Scores. This will clear any entries on the breech wrinkle, breech cover, dag scores and fleece rot.

If a value is entered for mulesed sheep then this will be used to estimate the score for unmulesed sheep.

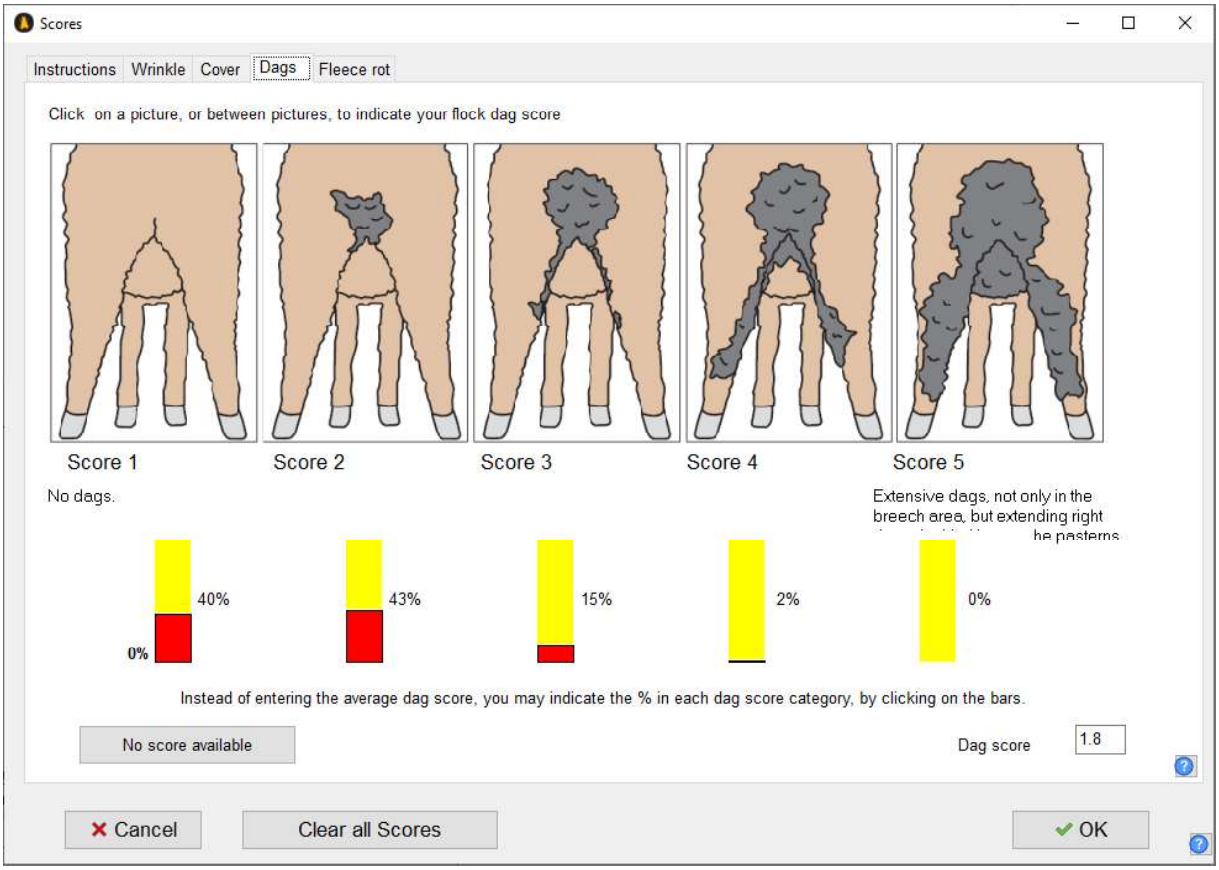
Breech Cover

This is entered in exactly the same way as for wrinkle, except that the pictures show breech cover instead of breech wrinkle.

Dag scores

For dag scores you should base the score on the period of the year when you have the worst dag scores that normally occur during the main fly season, since dags outside this period are not relevant to flystrike risk.

Dag scores can be entered exactly as for other scores by clicking on the pictures, but there is an extra option available.



In some flocks the **average** dag score may be misleading if some sheep are very daggy while others have low scores, so it is possible to enter the distribution of dag scores. This is done by clicking on the bar charts to indicate the approximate proportion in each dag score category. Don't try to make the totals add to exactly 100%, just make the heights in the right proportions. The program will even up the scores to add to 100% if you just click on the box

where you could enter the average dag score (but don't type anything in that box). At the same time it will calculate the average for that flock. You can then click on the bars to make further adjustments if you wish.

If you want to enter your own distribution, don't type in the average or click on any pictures after that or it will override the distribution entered. However, you can initially click on a picture to enter an average score and see the distribution that applies to that average. Then you can tweak the distribution a bit by clicking on the bars.

It is recommended that you click on the data entry box after you finish adjusting the graphs to make sure the overall distribution is about right. However, it is not essential because the program adjusts the totals to 100% when you leave this section.

Fleece rot

This is entered in the same way as breech wrinkle, by clicking on the picture (or between pictures) that most closely represents the average of your flock.

Cancel

If you click Cancel while on any tabsheet then all the scores you entered on any tabsheets for scores will be ignored and the program will revert to whatever scores it had before you entered the Score section.

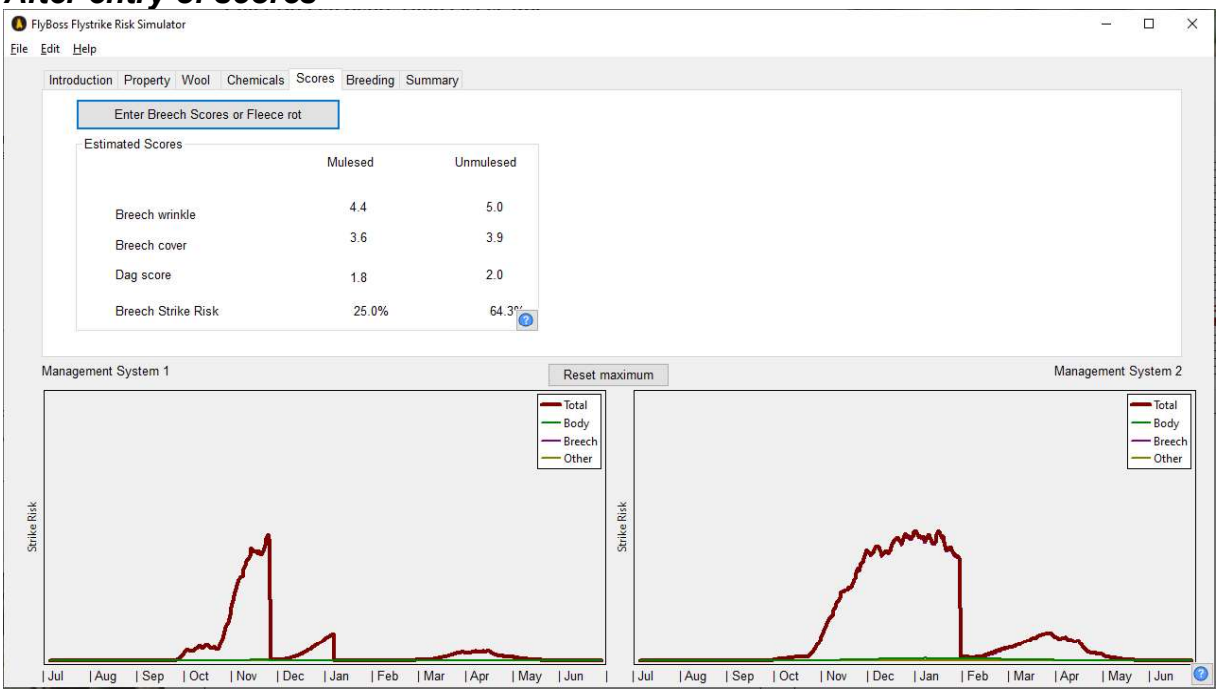
Clear all …. Scores

If you click 'Clear all scores' while on any tabsheet then all the scores you entered will be set to blank and you can go back and re-enter them.

OK

When you click OK to return from entering scores the program estimates the breech scores for mulesed and unmulesed sheep based on all the information entered so far. Then it calculates the expected risk of strike for mulesed and unmulesed sheep if scores have been entered for wrinkle, breech cover and dags.

After entry of scores



When all three breech scores have been entered the program shows the estimated percentage of the flock that would be at risk of strike if the sheep were mulesed, or not mulesed.

Where the program uses a percentage this is the % of the flock that would be ‘at risk’ in an ‘average flock’ if no management action was taken to avoid flystrike. It does not mean that this percentage of sheep would actually be struck in practice.

Breeding

After you have used the Scores tabsheet, you can see what effect you could get by using breeding to reduce the breech scores. This section does not tell you how to do the breeding but will indicate the change in breech strike risk if any of the scores are increased or decreased. It may not do anything if no flock scores have been entered yet.

The program always uses Management System One as the basis of comparison. You might set this as your current mulesed flock to compare with unmulesed sheep after breeding.

Then it calculates the results for Management System Two after allowing for any changes in scores due to breeding. You indicate these changes by moving the relevant sliders right (to increase scores) or left (to decrease scores).

Be careful here because you are not just looking at a management system with and without breeding. You are comparing Management System One (normally your current management) with Management System Two + breeding (normally unmulesed sheep), to allow you to consider what management options you can combine with breeding to avoid flystrike being worse than the current system. This could include changes in shearing time or treatment.

If this is confusing then use Edit: Copy M1 to M2 before you start and this will ensure that Management System One and Two are identical.

The program shows the overall risk of breech strike (ignoring shearing, crutching and chemical treatment) for each of the two management systems and works out the ratio between them. The graph may not correspond to this ratio because it includes management and it shows all types of strike, while the numbers displayed only relate to breech strike, so the graph may not appear to be consistent with the ratios given.

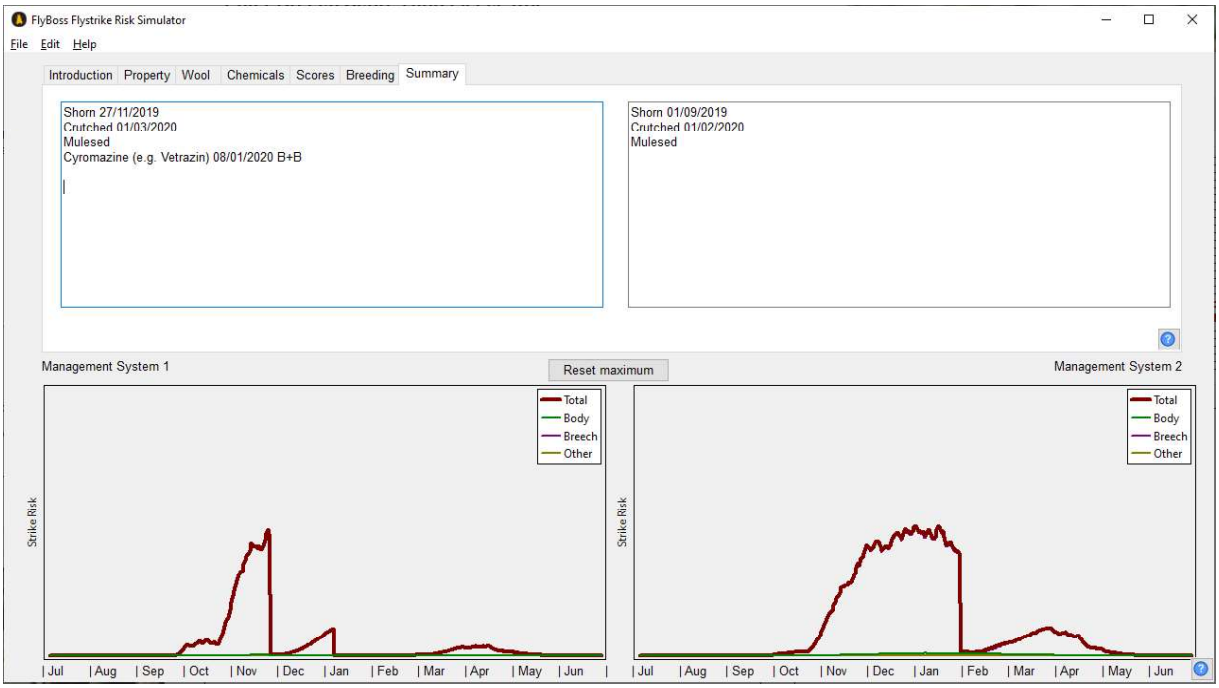
You can move one of the sliders while keeping the others constant to examine the effect of changing each score on its own. Or you can move all the sliders to new positions to test the effect of changing all the scores. Use the “Reset sliders” button to set all the effects back to the normal values for either mulesed or unmulesed sheep (whatever Management System Two is set at).

If you want to test the effect of breeding on Management System One or use Management System Two as the base system you can swap them around using the Edit menu item (see later). The program applies the breeding to Management System Two but compares the result with Management System One because you may need to compare your current mulesed flock (maybe with a little chemical use) with a possible unmulesed flock that may require breeding and extra chemical to get the risk down to comparable levels.

The program assumes that all changes in breech scores will be due to breeding and therefore will take some time to take effect. In practice, other management changes may be used immediately to reduce dag scores if dags are a problem.

It may take about 10 years of breeding to reduce breech scores by one unit, if you also maintain selection for other wool or meat traits.

Summary



This shows a summary of the management used, ignoring management options that were not used, so crutching would not be listed if no crutching occurred.

Instructions

Many sections have a small question mark in the bottom right corner. For example the Property tabsheet has a section for property location, with a question mark at bottom right.

If you click on any question mark like this, you will get some instructions that are specific to the section that contained the question mark. Some boxes only have a few options and so have short instructions. Other boxes have a lot of options so may have a whole page to describe what you can do.

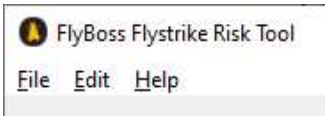
You have to click OK to close the Instructions window before you can go on using the program. But you can move the window around to see the main program screen while reading the instructions.

The instruction text that you get is almost exactly the same as the text in this manual, but without the screen pictures. So you could just print the manual. But the instruction buttons make it easy to find the information that relates to the specific problem you are working on. There are some sections of the manual that do not appear in any instructions option, e.g. relating to the File/Edit/Help menus.

If the program says that no instructions are available on a topic, then either that set of instructions is not available, or your instructions files are not in the correct directory of your computer. They should be in the same section as the program, but in a Documentation subdirectory.

Menu Options

Some options are available from the menu of the top of the screen.



File Menu

File : New

Discard the current management options and restart with no shearing or crutching entered, mulesed sheep, no chemical treatment and no flock scores entered. It does not change your location.

File : Open Data File

Open a previously saved management system.

File : Save Data

Store all the details entered, including location, type of analysis, shearing, crutching, breech modification and chemical treatment.

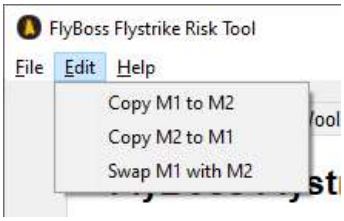
File : Save Graph

If you click File:Save graph it will ask you for a filename to store the graph. The graph for Management System 1 (on the left) will be saved as a bitmap (.bmp) and this graph can then be inserted into powerpoints or other documents using Insert:File.

File : Exit

End the program

Edit Menu



Edit : Copy M1 to M2

This copies all the details currently entered in Management System One to Management System Two. This allows you to set up your current management as System One, then use this to copy it to System Two, before making minor changes to test the effect of alternative options.

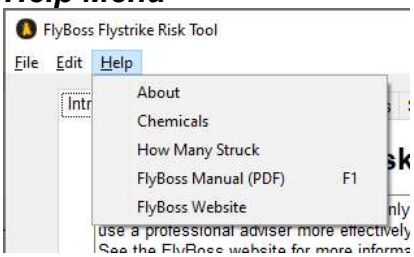
Edit : Copy M2 to M1

This copies all the details currently entered in Management System Two to Management System One. This may be useful if you want to use the Breeding tabsheet, which always applies breeding to System Two and compares it with system One.

Edit : Swap M1 to M2

This copies all the details in Management System One to Two and all of System Two is transferred to One. This allows you reverse the graphs, or it allows you to have the old management in Two and the planned management in One before printing your graph. It may be useful when using the Breeding tabsheet.

Help Menu



Help : About

This acknowledges the organisations that have supported the development of the FlyBoss Tools and provides links to the ParaBoss and FlyBoss websites.

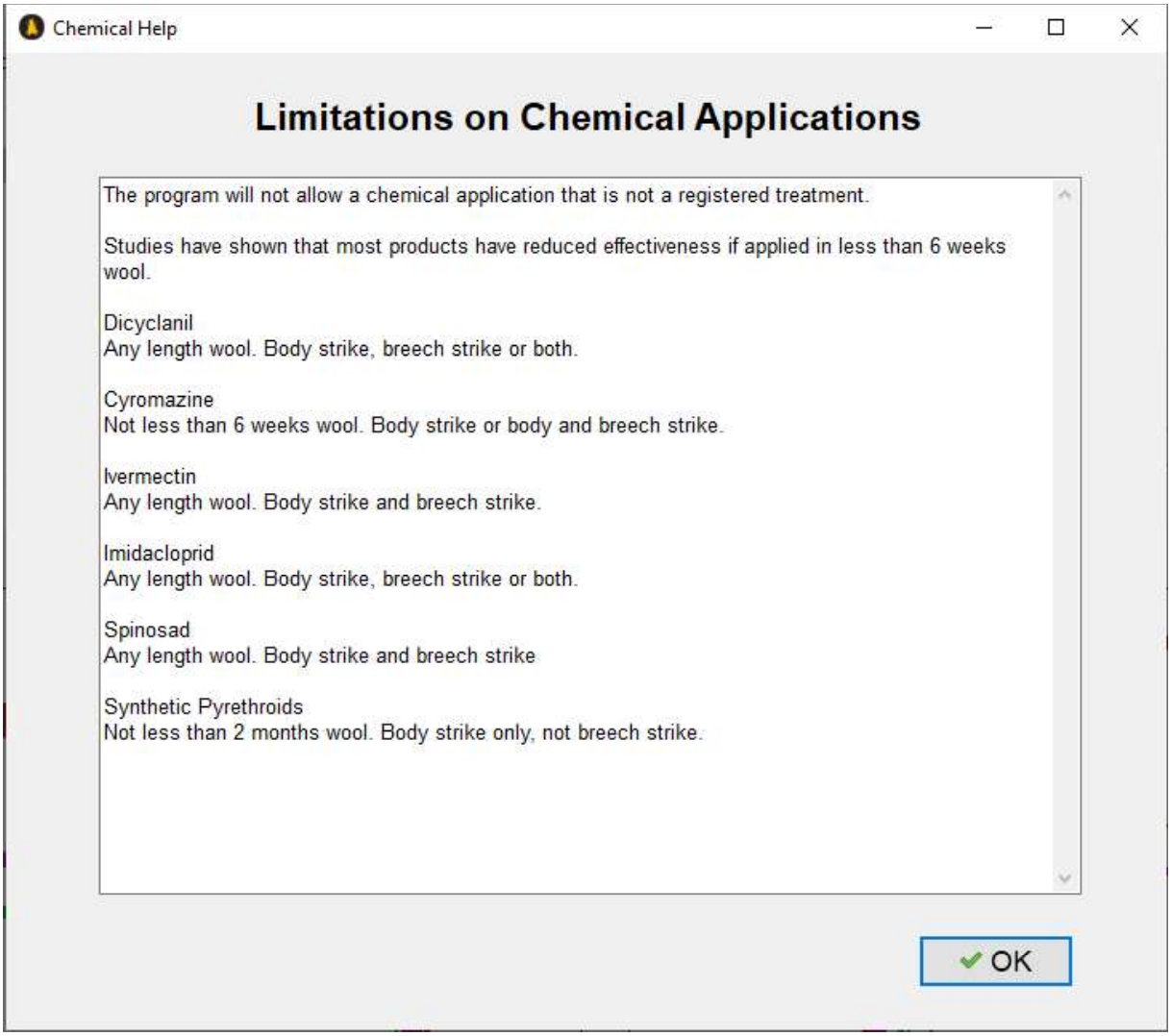
This page also shows the version number. If your version is not the current version shown on the FlyBoss website then you could download an updated version.

Help : Chemicals

This lists each chemical group and describes any restrictions related to treatment soon after shearing. It also shows whether the chemical is registered for prevention of body strike, breech strike or body + breech strike or some combination of these. These details are provided to explain why the options offered on the chemical screen may appear to be restricted.

For example a product “registered for treatment of body strike and breech strike” does not have the option of use for breech strike alone.

This list may not be updated every time new product groups are released, even if new product groups are listed on the chemicals page.



Help : How many struck

This explains that the program cannot calculate the expected number of struck sheep, because that differs widely from one farm to another. But you can use it to compare the risk at different times of the year and compare different management choices.

It also explains why you may get higher than expected risk at some times of the year when the risk is normally very low, particularly in hot summers. There is a risk at these times that unusual weather may result in warm, humid conditions that are ideal for flystrike. You may not usually need to apply protection for these periods, but you need to be aware strike may occur under some conditions.

Help: FlyBoss Manual pdf F1

This option will load the pdf version of the complete FlyBoss Manual. You can also get this just by pressing the F1 key. You should probably print the manual rather than reading it on screen, since the Instructions available from the question marks scattered on most windows give the same information, but it will be specific for the page you are on.

Help: FlyBoss Website

This will load the FlyBoss website in your usual browser. This provides all you need to know about flystrike and how to control or prevent it.

Files used by the Program

Files should be in the directory My Documents/FlyBoss.

The program requires a file with the risk of flystrike for a given location. It may be provided with at least one file, but this may not be the location you want. You can download files for any given location from the website where you downloaded the program. Check the FlyBoss website.

You can have as many location files as you want, but the program will automatically load the first one in alphabetical order. You can rename files to meaningful names for your location, and you could add an A in front of the name of a file to make it appear first.

Never change the .strkrsk file extension, or the program will not be able to find the file. It is a good idea to keep the latitude and longitude part of the file name, so you can be sure of the location for that file.

You can save your own management data files (.fbd) but these are optional and can be in any directory.

The program does not automatically save any files when you finish, nor does it warn you that any changes have not been saved.

The program will load a file PData.flychm if the file is present. This file may need to be updated if there is a change in the range of products available for flystrike control. The program can run even if this file is not present.

Problems

If you have any problems with the program, please check the FlyBoss website.

http://www.flyboss.com.au/sheep-goats/