Computer Dating System

User's Guide

Contents

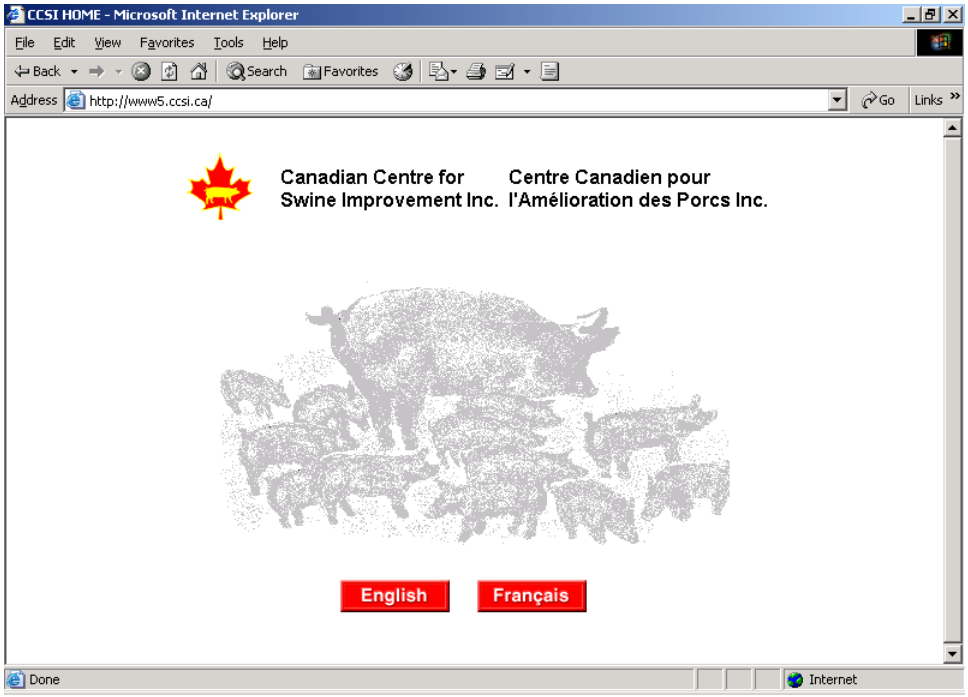
Computer Dating is a decision support system. It is designed to assist you in making selection and mating decisions to increase the genetic progress of your herd, avoiding inbreeding. The system guides you through a series of steps to help you in this process. There are three main steps :

- the system allows you to create your own indices and save those indices in step 1;
- you can select top male and female pigs based on the national index or your custom index in step 2 ;
- finally, you get a list of inbreeding coefficients, EBVs and indices from matings of selected top pigs in step 3.

This system is an interactive internet application still under development. The response to your queries may depend on the speed of the internet connection, and other activities at the national database. Therefore, take your time, be patient, and let us know if you need any help.

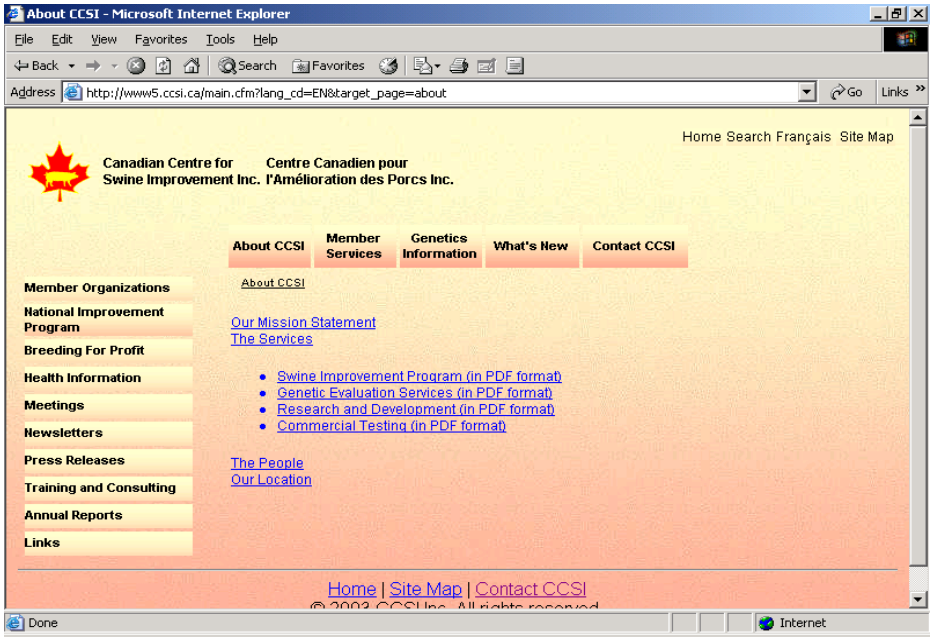
Getting started

- To use the Computer Dating System, go to the website http://www.ccsi.ca/, the following screen will appear:

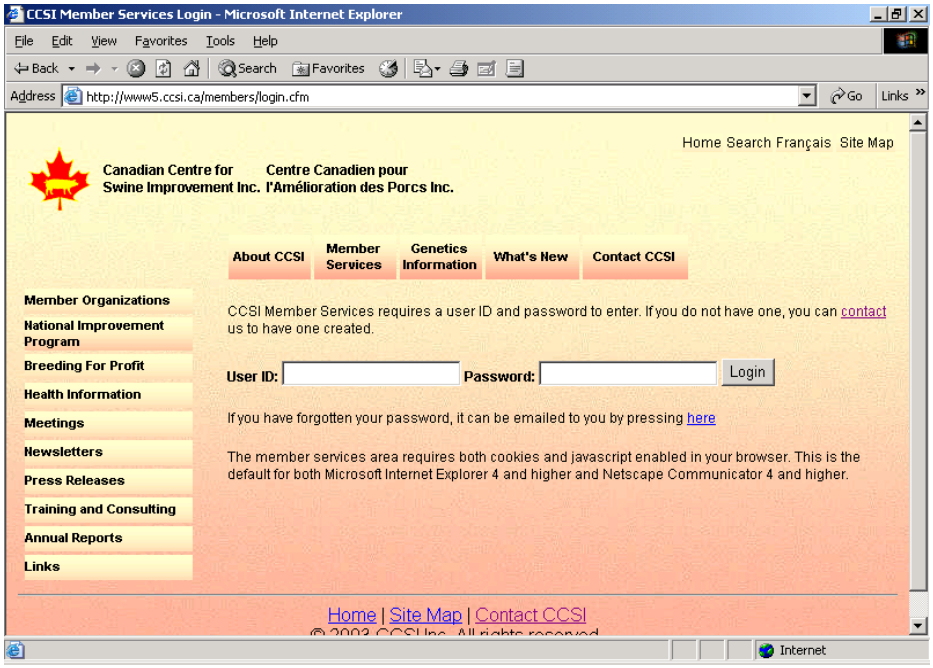


- Select the language of your choice, English or French.

- When you select the language of your choice, the following screen appears. This is the main menu of the website.



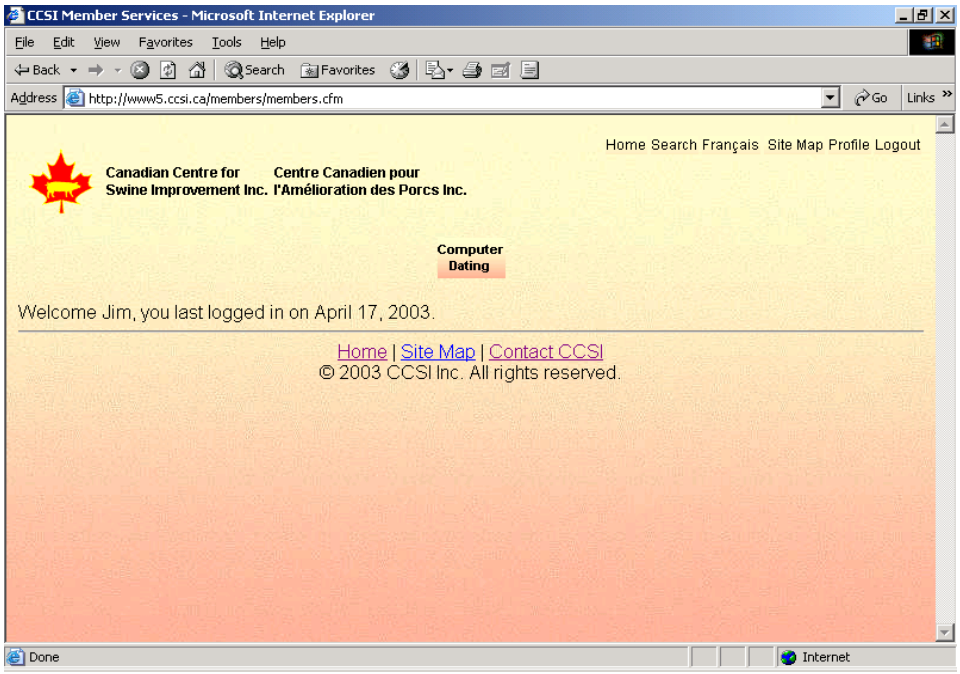
- To use the computer dating system, click on the icon "**Member Services**", the login screen appears :



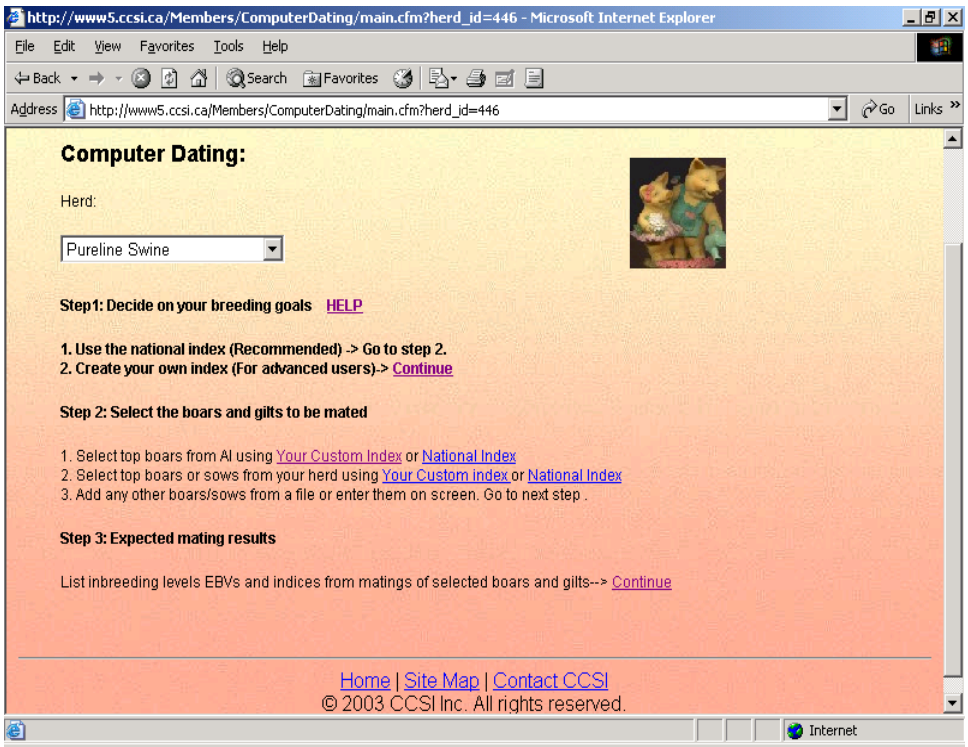
CCSI Member Services requires a user ID and password to protect confidentiality of the members and provide information according to the preferences of the users. If you do not have one, you can contact us to have one created.

Contact Information:
Central Experimental Farm
Building #54 Maple Drive
Ottawa, Ontario K1A 0C6
Tel: (613) 233-8872
Fax: (613) 233-8903
info@ccsi.ca

- You may use an example herd. Eg, the user name is "Pureline" and password is "30days".
- Once you log in successfully, the following screen appears :



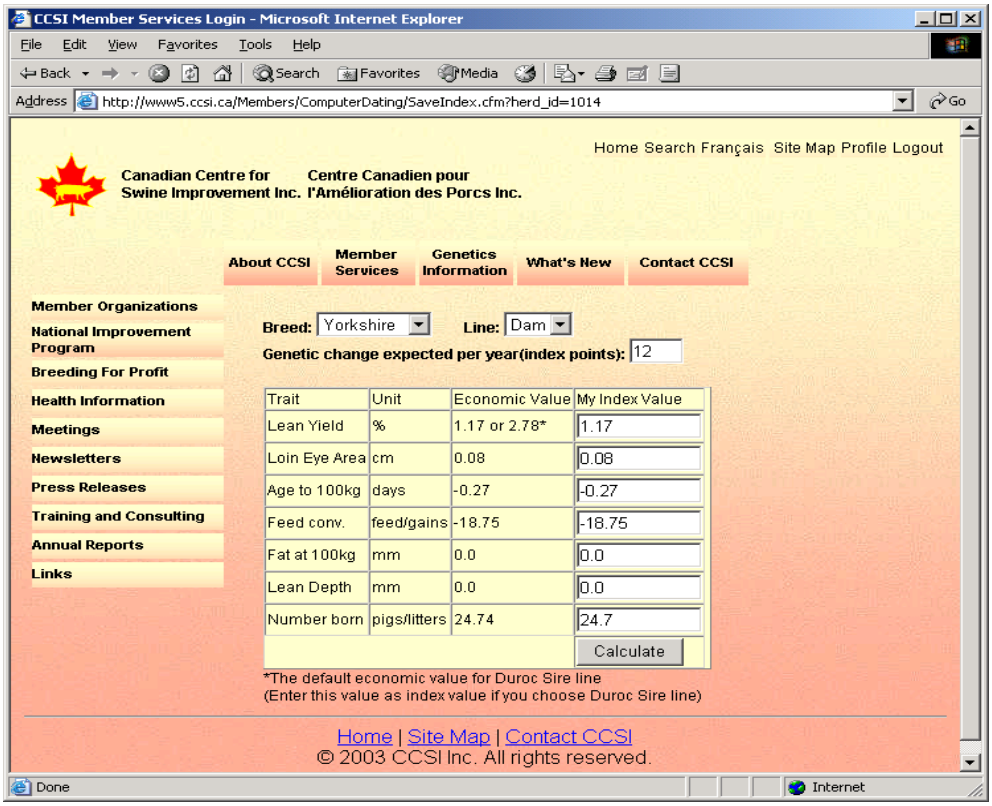
- Click on the icon "**Computer Dating**", and the main screen of computer dating system appears :



- Select the link **HELP** to read the details about using the tool. This is especially recommended for first time users.

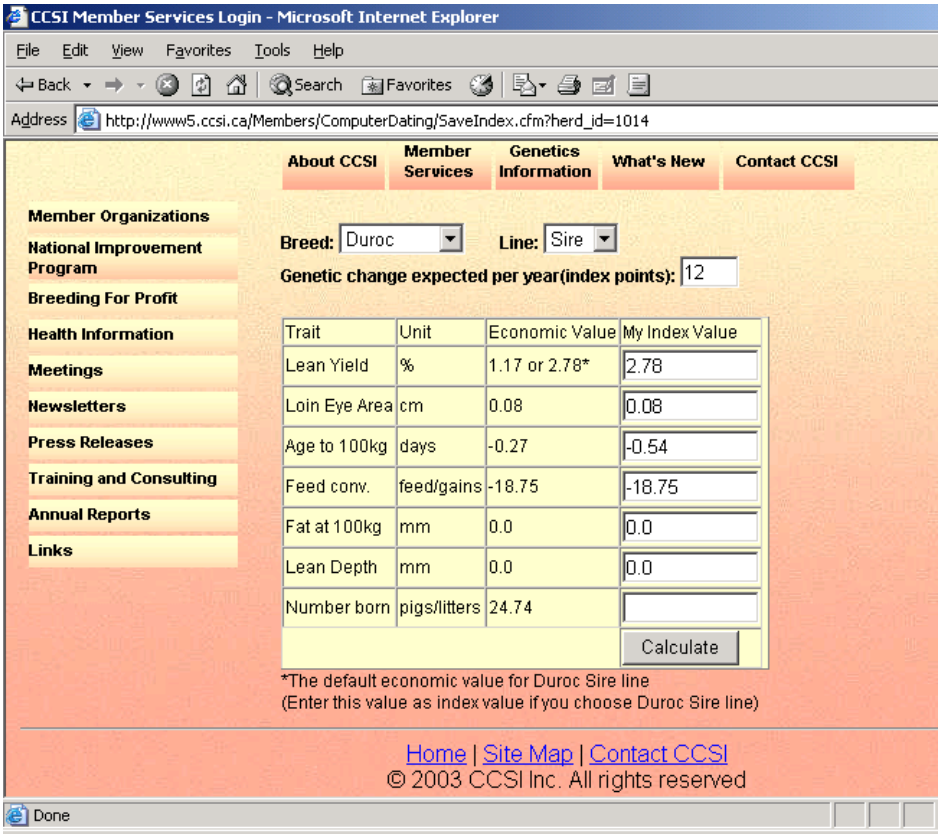
Step 1 : Decide on your breeding goals

- You may skip this step if you wish to use the national index
- To create your own index, click on the link **Continue.**
- You will get the following screen :



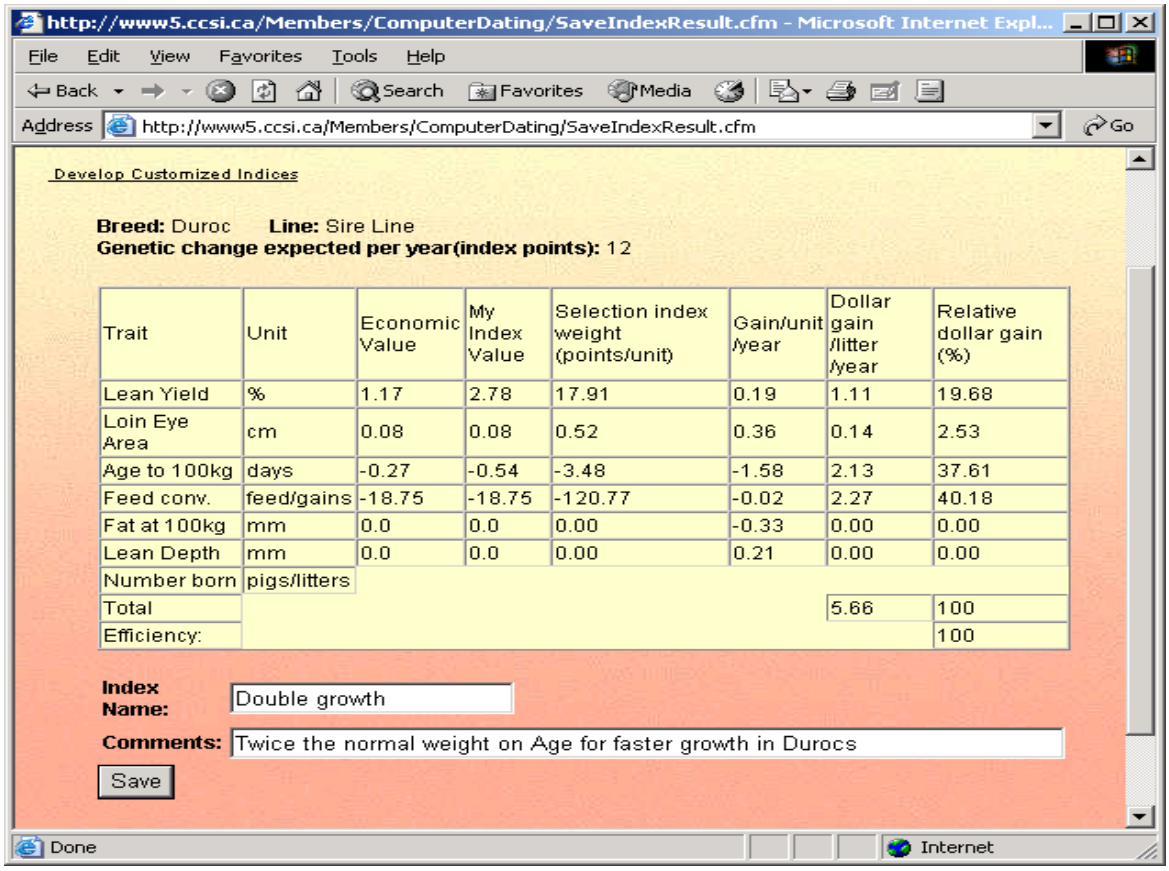
- This screen provides a list of traits and their economic values used in the national index and offer the possibility to enter your own economic values in column "**My Index Value**".

For example, the economic value for Age to 100kg is $-0.27 per day. This means that a reduction in age to 100kg by one day is worth $0.27 in savings per market hog. You may use this value in the column "**My Index Value**" to keep a proportional balance for all traits as done in the national index. However, if your clients are satisfied with carcass grades in Durocs but need faster growth rate you may want to increase the selection emphasis on age to 100kg. You can do this by increasing the economic value for Age to 100kg in the "**My Index Value"** column. For example, change the value from –0.27 to twice the amount as –0.54.



- Select the breed as Duroc and line as Sire line and click on "**Calculate"** button to see the resulting effects on the expected genetic progress and profits.

- When you select Duroc sire line, make sure to change "**My Index Value**" for Lean Yield to 2.78, if you wish to keep the same economic value as in the national index. The value for number born will be ignored since this trait is not very important for sire line.



- This screen shows the genetic progress expected based on your breeding goals. Note that expected gains are higher for Age to 100kg and lower for other traits.

- You may click on the "**Back**" button of your browser to change the values in "**my index value**" column and click "**Calculate**" to see the results. Once you are satisfied with your selection, type a name for the new index you have created and enter an appropriate description in the field for comments.

- Click the save button to save your own index in the database. You may see a message "Error: Your index can not been saved" and "Please use a different name!" That means your index name already exists in database table, you need to use a different name that you have not used previously.

Step 2 : Select the boars and sows to be mated

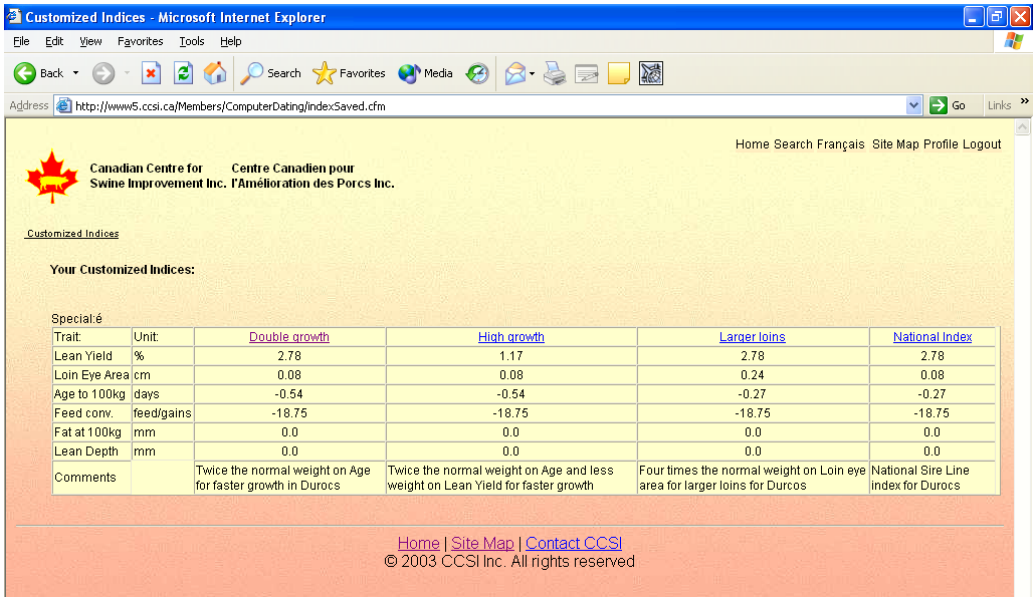
Once you have decided about the traits you wish to improve and your breeding goals, you should select the top males and females based on the national index or your custom index value. This step allows you to calculate the national index or your custom index for selection candidates, rank them and select the top ones. You can prepare a tentative list of potential selection candidates (animals for breeding), save these lists and use them in the next step. You can drop some boars and gilts from the list in step 3, if you wish to do so.

You have the choice of selecting top boars from AI using your custom index or national index and selecting top boars or sows from your herd using your custom index or national Index.

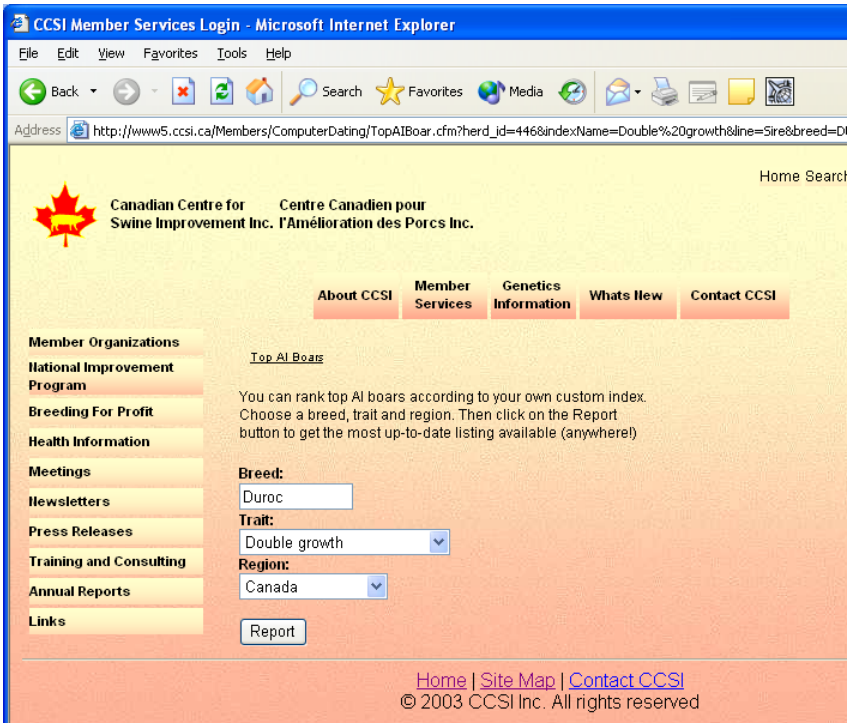
Those four selections are quite similar, here are two examples:

Example 1 : Select top boars from AI using your custom index

- Select the link "**Your custom index**" for selecting top boars from AI.
- In the following screen, select breed as Duroc and line as Sire line, and then click the button "**Show me the indices**", you will get the following screen that shows the custom indices you have saved and some other indices as examples.

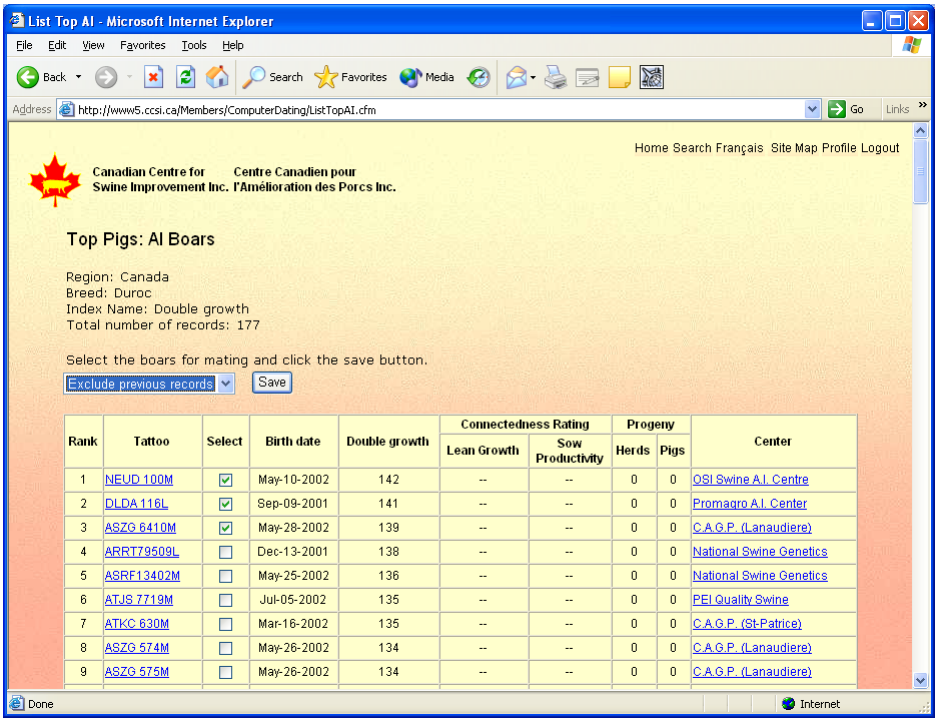


- Select the index of your choice (clicking on the appropriate link) to rank the AI boars, for example the 'Double growth' index that you just saved in step 1.
- The following screen shows the name of your index as your first choice to rank the boars.



- Select the region from which you wish to select and rank the boars according to your 'Double Growth' index. For example select Canada if you wish to rank all the currently available AI boars on the national program. Click the "**Report**" button

- You will then get a list of boars ranked according to your custom index Double growth.



- Now you can select the potential boars that you wish to consider for mating using the checkboxes as above. Then click the save button. The identifications of the boars you selected will be saved for your use in step 3.

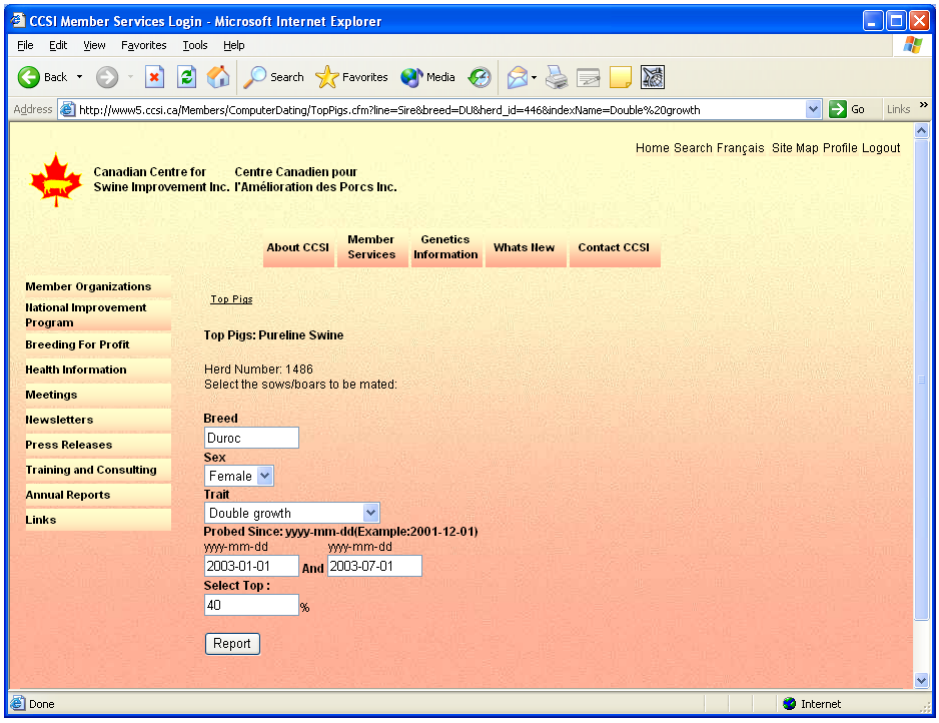
- If you have saved a list of some boars previously that you wish to retain, select '**include previous records**'. However, if you do not wish to do so, select '**exclude previous records**' and the previous list of boars will be deleted from the temporary storage and will not be available for in step 3. You may not be able to reverse your decision after clicking on the save button. Therefore make this choice carefully. Of course, the boars you select from this list will be available after you click on the save button.

- It is also important to select at least one boar from the list before you click the save button. Otherwise, you will not be able to have any boar to save.

Example 2 : Select top sows from your herd using your custom index

- Go back to the main screen for computer dating. Select the link "**Your custom index**" for selecting top boars and sows in your herd from step 2.

- In the screen that follows, select "Duroc" as breed and "Sire line" as the line and click the "**Show me the indices**" button. You will get the screen showing your custom indices and some example indices. Select the link "Double growth", then you will get the following screen :

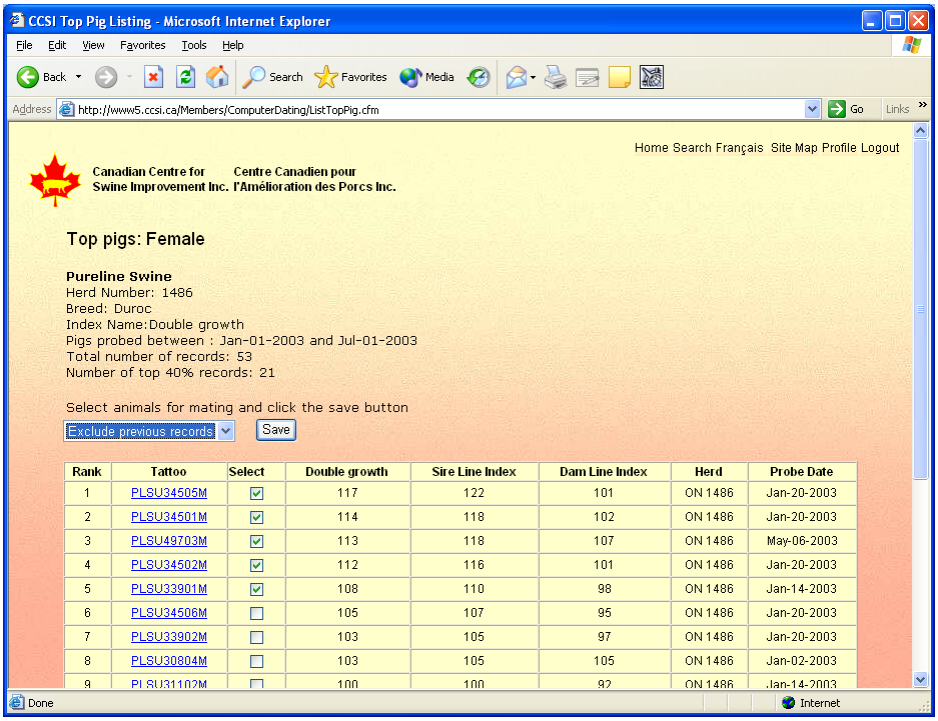


- Select Duroc as breed, female as sex and Double Growth as trait.

- If necessary, change the probing period for selected animals, and the proportion of top animals to be searched.

- Then click the "**Report**" button.

- You will get the following screen, showing the list of sows ranked according to your own custom index in the appropriate format.



- Now you can select the potential females that you wish to consider for mating, using the checkboxes.

- Then click the "**Save**" button. The identifications of females you selected will be saved for your use in step 3.

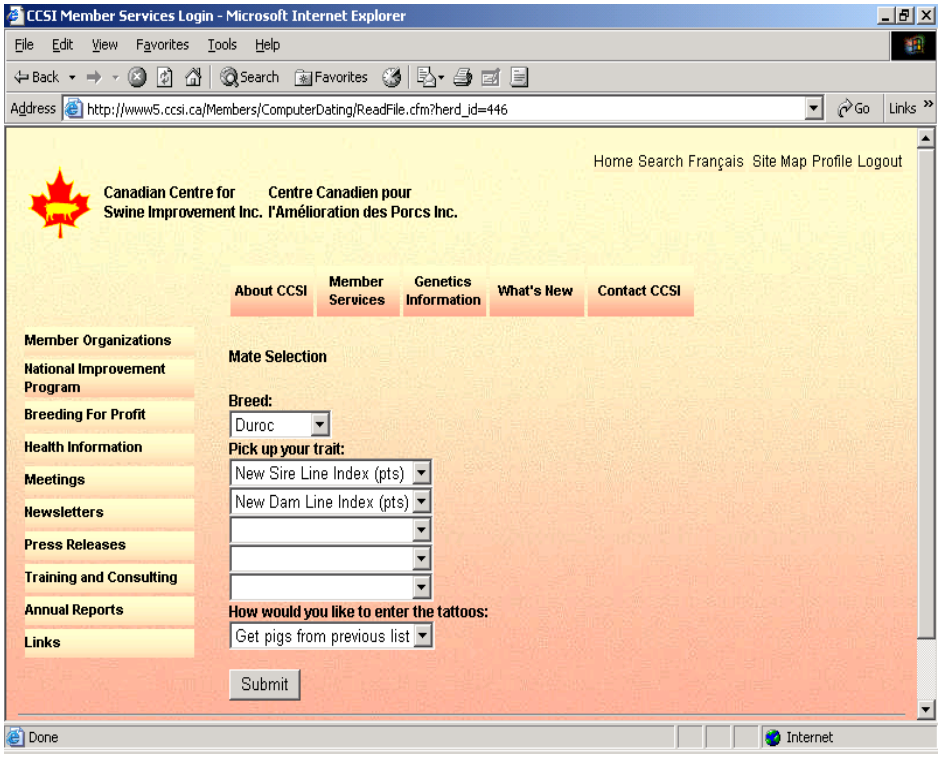
- If you have saved a list of females previously that you wish to retain, select '**include previous records**'. However, if you do not wish to do so, select '**Exclude previous records**' and the previous list will be deleted from the temporary storage and will not be available for step 3. Of course, the females you select from this list will be available after you click on the "**Save**" button.

- If you do not select any female prior to using the save button, all females on the list will be saved for your use in step 3. Go back to the main screen for computer dating.

Step 3 : Expected mating results

Now you are ready to view the expected results of matings between the males and females you have selected in step 2. This tool will give you the inbreeding coefficients, as well as expected EBVs and indices of the litters from these matings.

- Select the link "**Continue**", you will get the following screen :

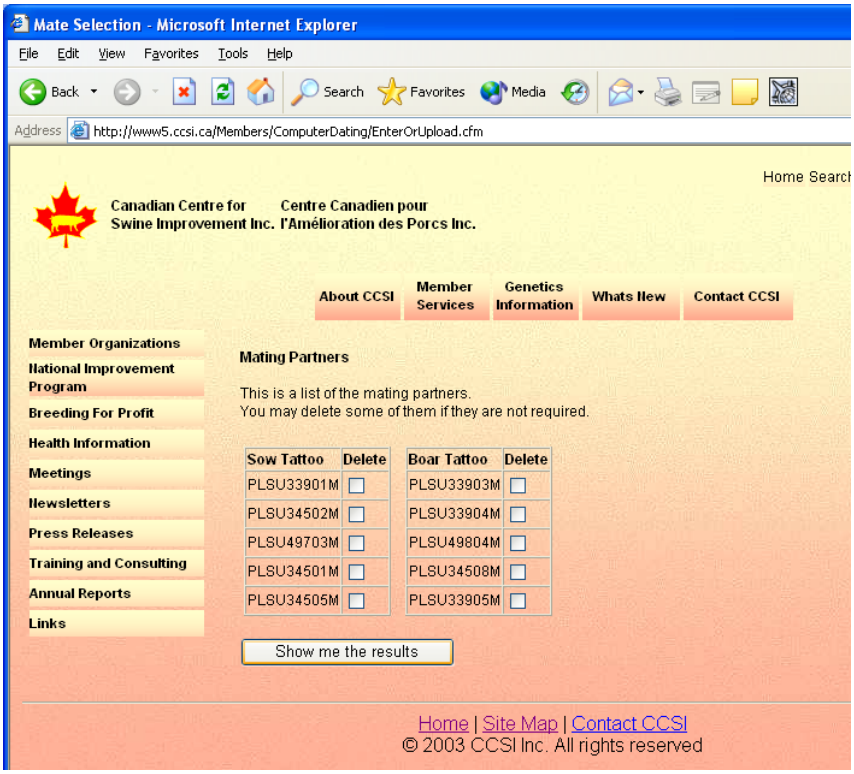


- Make sure you choose the correct breed, e.g. Duroc. If the breed you choose does not match with tattoos and breeds of pigs in the database, you may not get any information on those pigs.

- You can choose traits and/or indexes from one to five with different combinations as you like. The drop-down boxes "**How would you like to enter the tattoos"** provides you three options : you may use the tattoos of pigs you saved in step 2, or enter tattoos of pigs on the screen if there are very few of them, or upload a list of tattoos from a file.

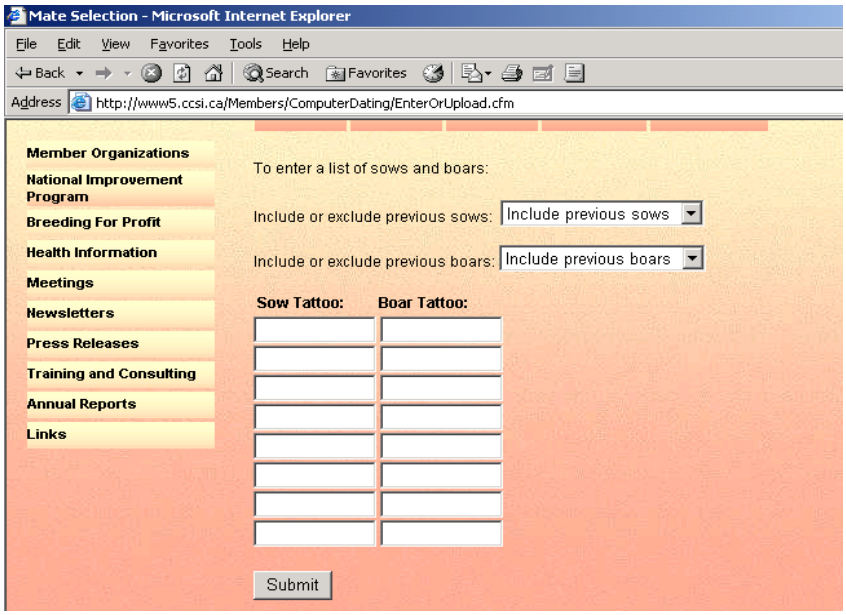
  Option1 : get pigs from previous list:

  This option allows you to use pigs you saved in Step 2 that are listed on the following screen. Select the option "**Get pigs from previous list**" and click on the "**Submit**" button. Using this page, you can review the list and delete pigs you do not need.



Option 2 : enter pigs on screen

- Select the option "**Enter on screen**" and click on the "**Submit**" button.

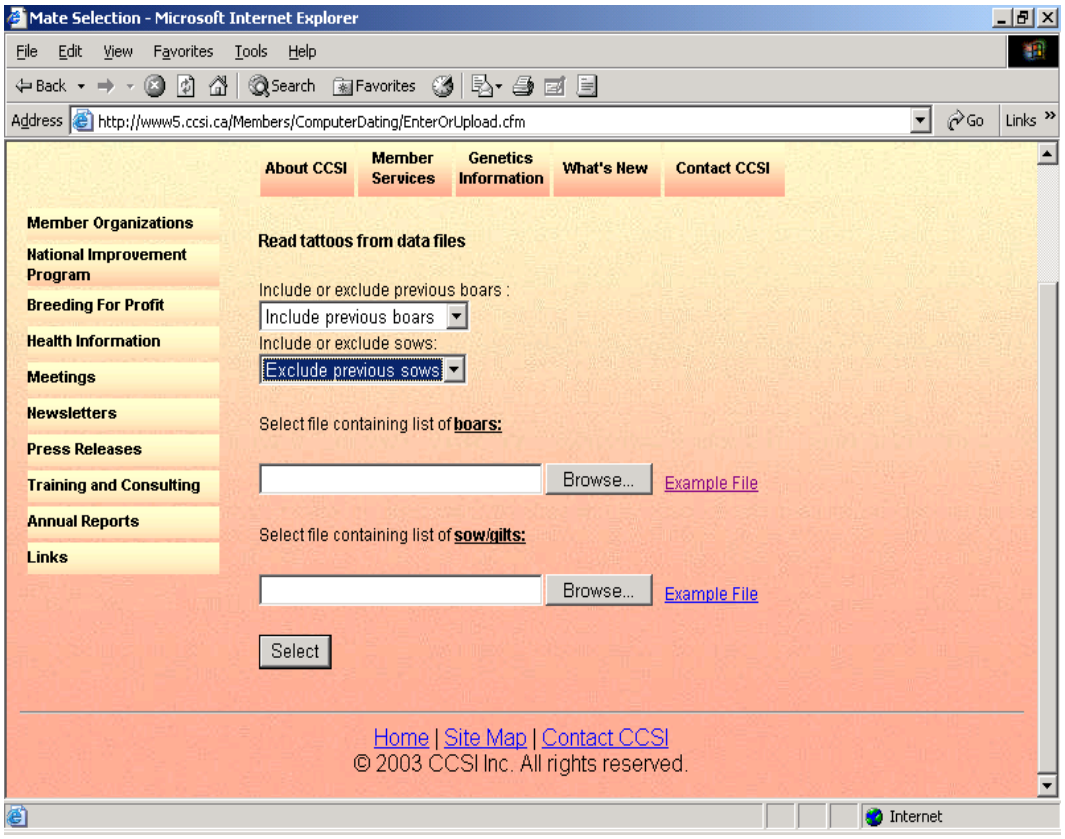


- In this page, you enter the tattoos of male and female pigs you are going to use for mating. You also have options to include or exclude previous records that you might have saved in step 2.

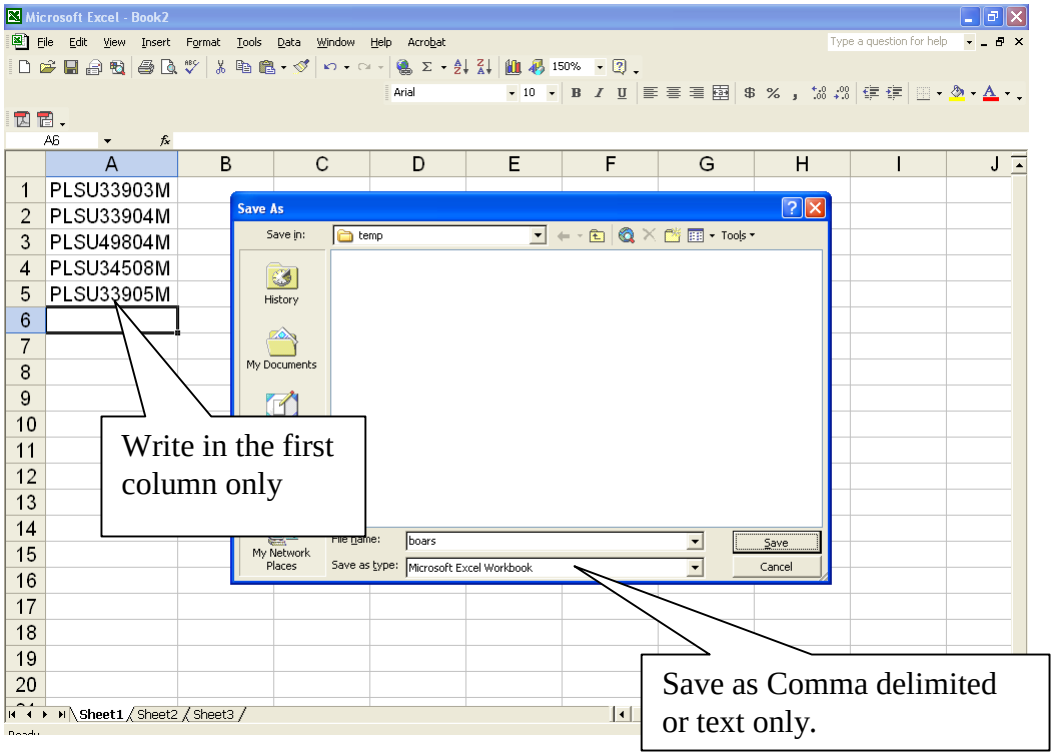
Option 3 : read tattoos from files

Entering Tattoos on the screen is simple, if you have up to 10 sows and boars. However, if they are more, entering the same tattoos again and again to correct for errors, repetitions etc. can be frustrating. An alternative is to enter the Tattoos in a file using Excel, Notepad etc. that can be used again and again if you need. It also allows to you copy and paste Tattoos from other programs e.g. STEP.

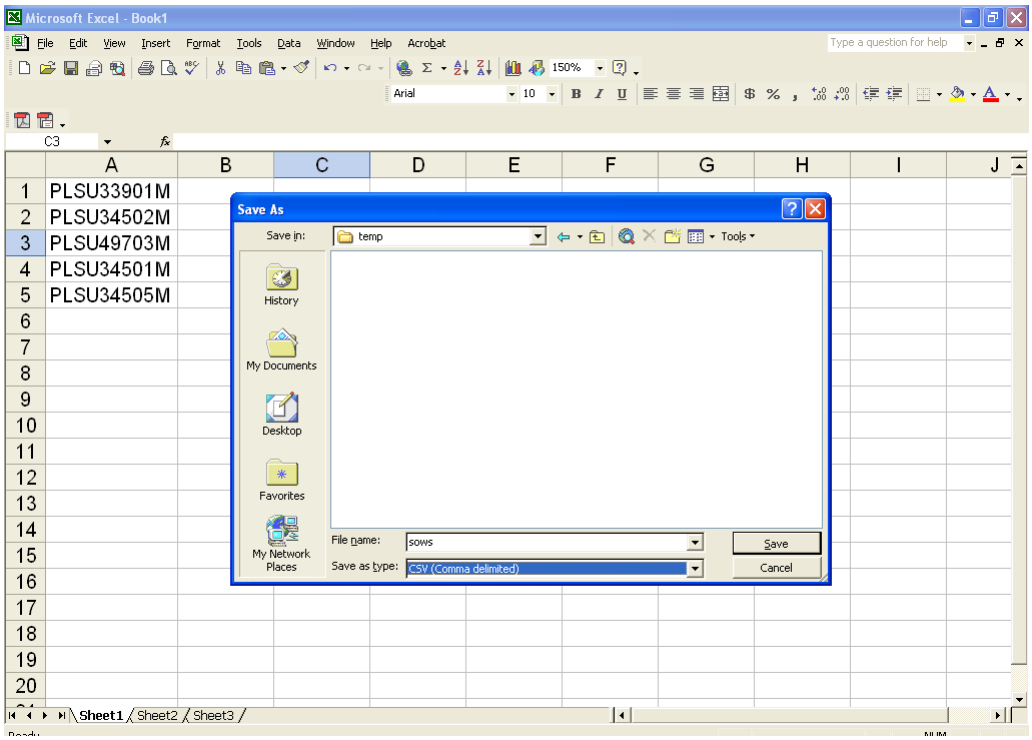
- You can upload a file containing a list of males and another one containing a list of females.



Example 1 : Creating a file containing the Tattoos with Microsoft Excel



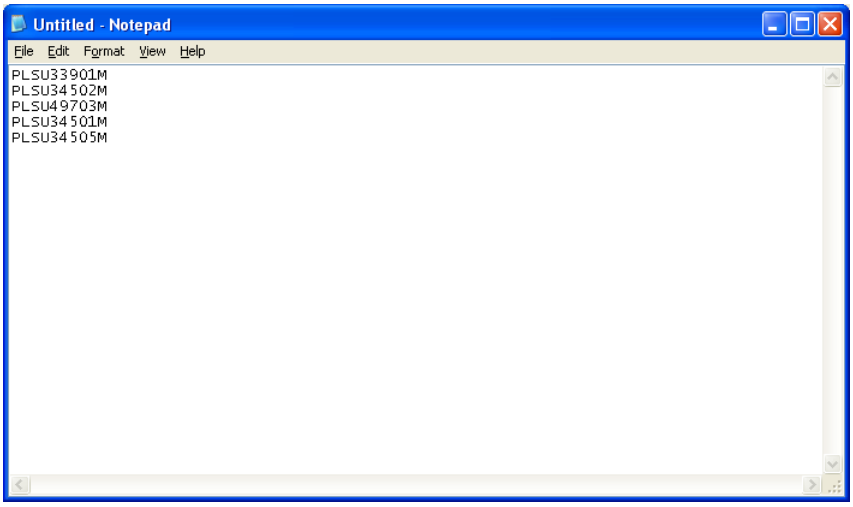
- You can create an excel file containing boar tattoos (entered only in the first column) and another one containing sow tattoos.



- Save these files as comma delimited or text only type.

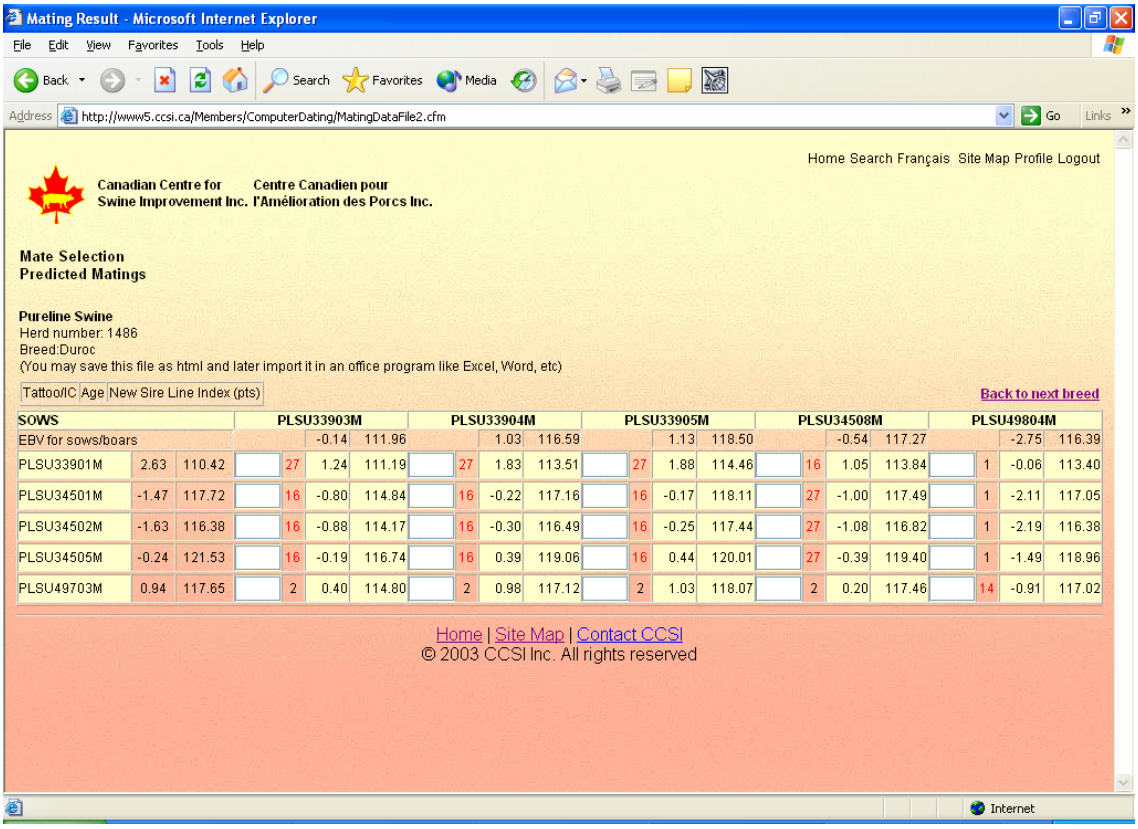
Example 2 : creating a file containing the Tattoos with a text editor

- You can create the file with Notepad, WordPad, Word, etc. Enter each Tattoo in a new line, one after the other. Save the file as a simple text (ASCII) file without any specific formatting.



- You can also open a csv file with Notepad, and then save as a txt file. Both txt and csv should work. The Tattoos in the files can be lower or upper case, with or without spaces.

- Once the list of male and female pigs is complete (get from the previous list, entered on screen or read from files) you can ask for the results of the mating plan, clicking on the "**Show me the results**" button. This is the final result page :

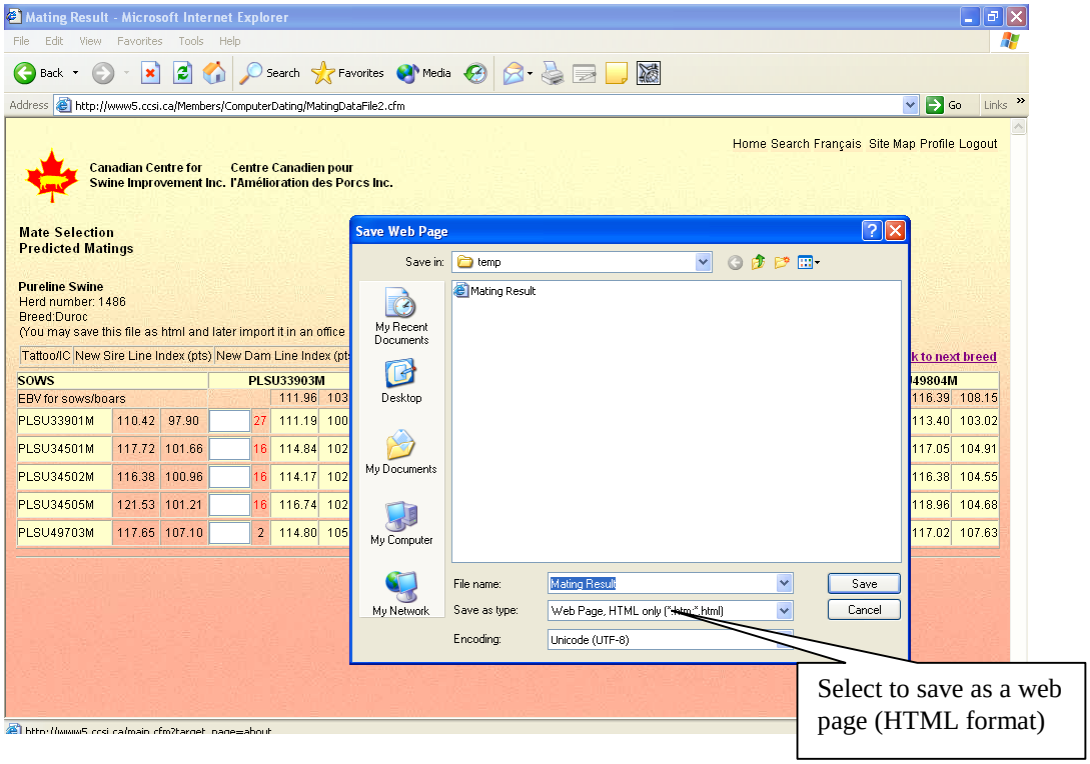


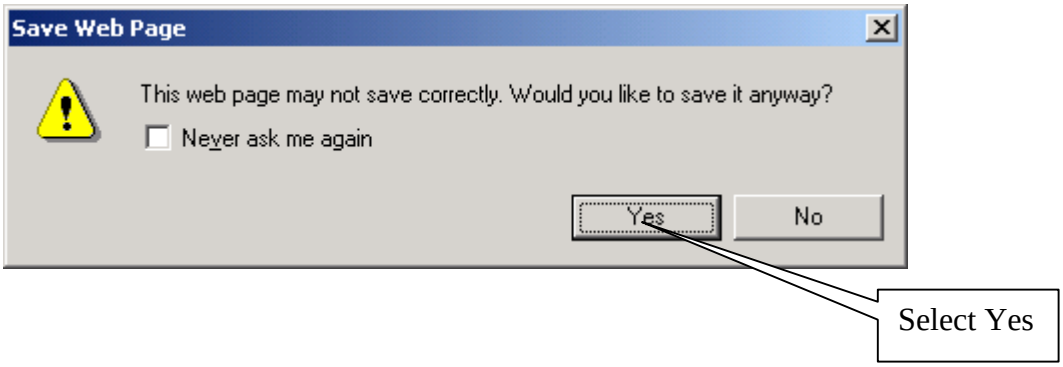
- The result page shows a table with selected boars and sows and all possible combinations. Next to each animal number, its EBVs for chosen index or traits (in the order they were chosen) are given. The interior part of the table shows the inbreeding coefficient (in red if greater than 7%) and the expected EBVs for the virtual progeny (in yellow cells). In the empty space next to each possible litter, you can enter either a comment or a number (for example a priority number, according to expected EBVs and inbreeding level), to facilitate the further use of the result table.

- You may print this report and take to the farm for the mating decisions or you may save this file for future use and import it in Microsoft Excel or other compatible spread sheet applications.

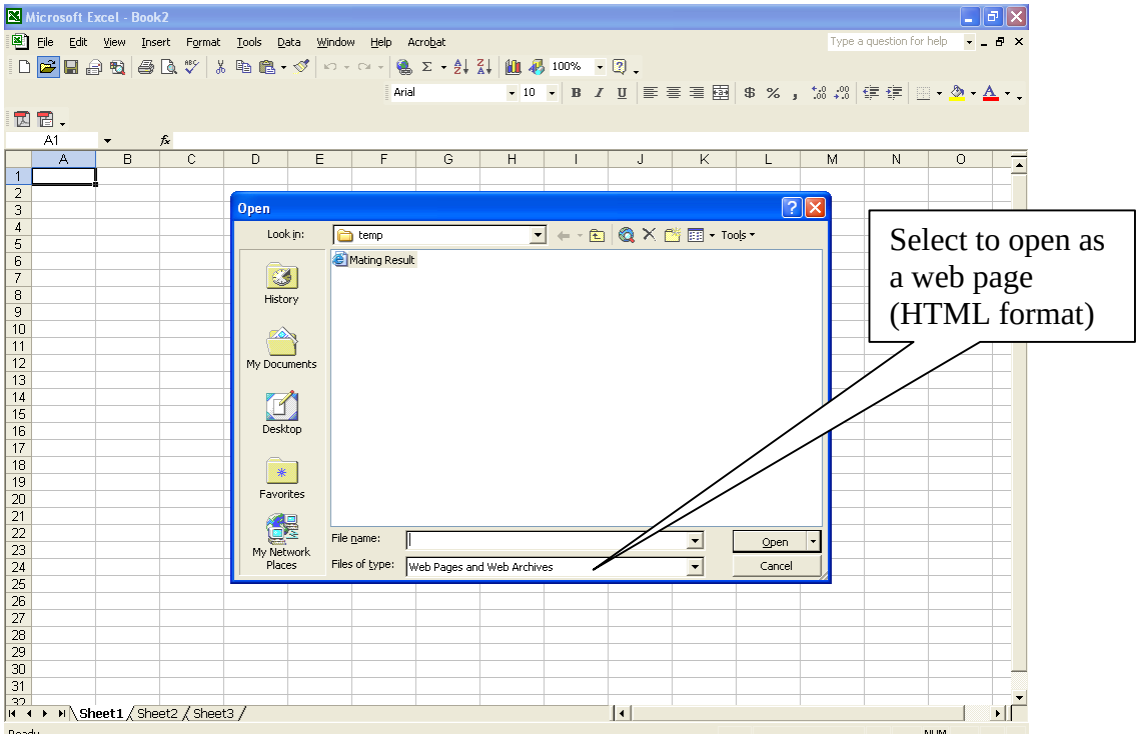
Saving and formatting the predicted mating plan

- The final page can be saved as an html file and can be opened and formatted in Excel for instance.

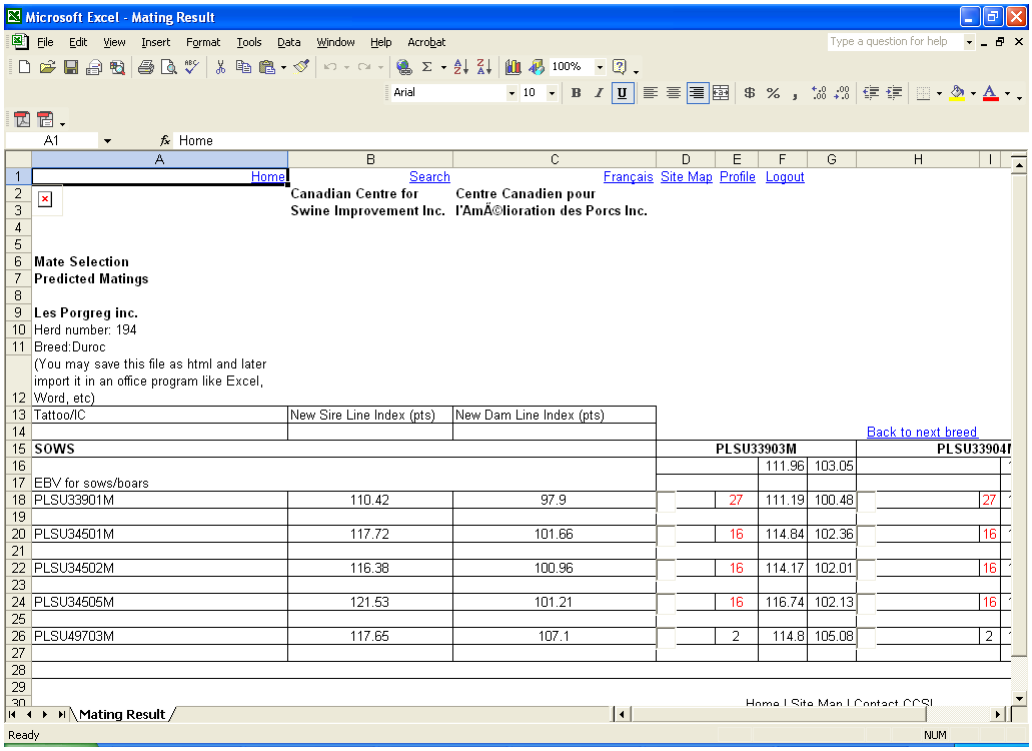




- After saving mating result page as HTML page, you can open the HTML file in Excel as follows.

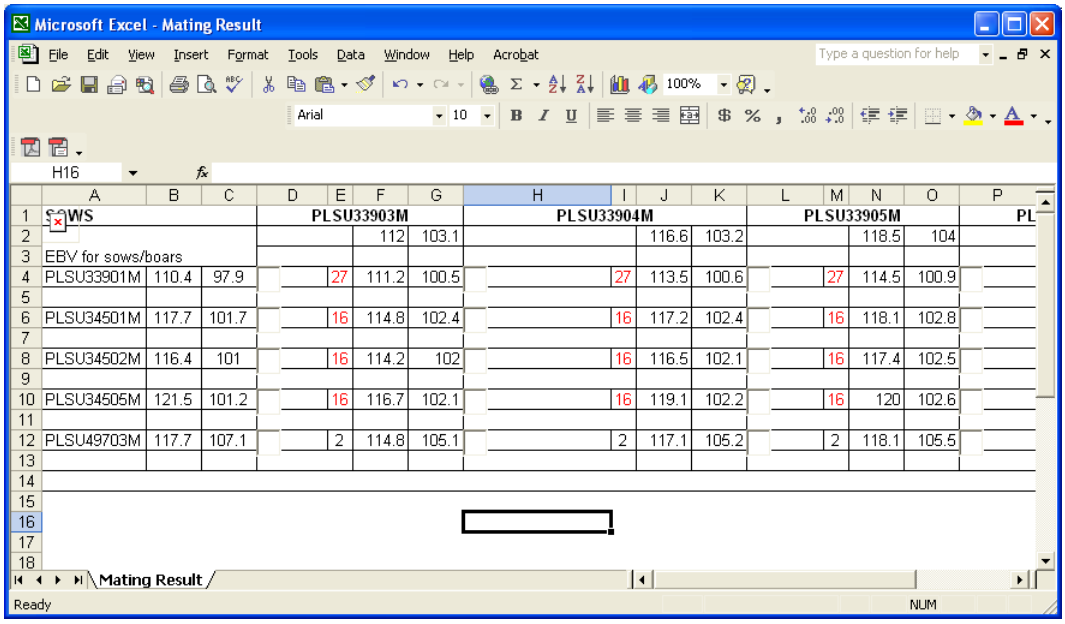


- This is how files looks like when you open html file through Excel.



- You may now use the features of Microsoft Excel to remove the title or other elements that you may not need. You can use the formatting options such as columns with optimum width and various prints and edit options of Microsoft Excel.

- This is a simple example, without the headings and columns formatted to optimum width :



We hope you enjoy working with the computer dating system. Let us know if you need any help or if you have any questions or comments.

Contact information :
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