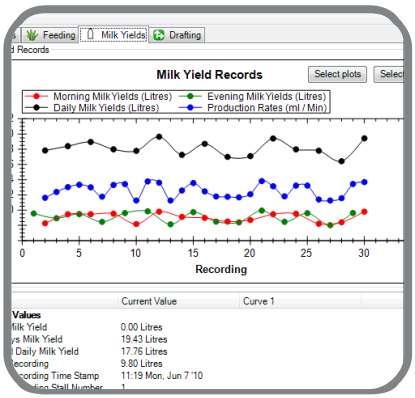
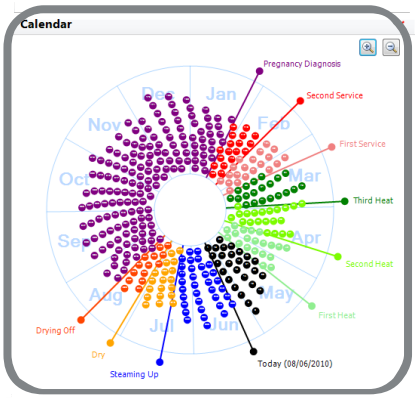
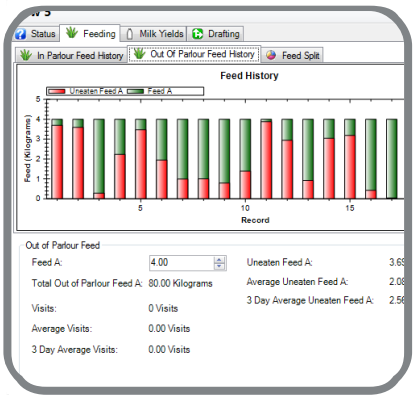
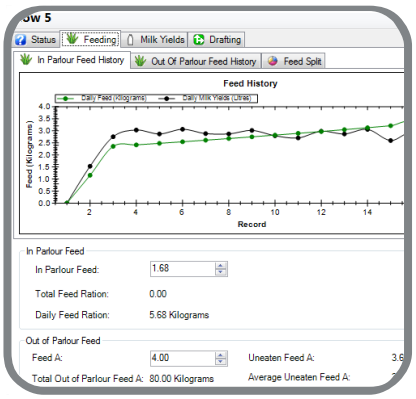
ATL Cowculator

Dairy Animal Management Software









User Guide

Revision 4 – April 2019

Innovation in and out of parlour

Table of Contents

1 User Guide Revisions

Revision	Release Date	Notes
1	March 2012	Initial release
2	June 2013	Updated for ATL Cowculator
3	November 2017	Updated for the ATL Micro M5
4	April 2019	Fixed table of contents for missing Micro M5 items.

2 Getting Started with ATL Cowculator

Welcome to ATL Cowculator. This part of the user guide will help you to install, configure and then connect the ATL Cowculator program to your ATL parlour or out of parlour control.

2.1 Program Requirements

ATL Cowculator requires a Microsoft Windows based PC with the following minimum specification:

- **Supported Operating Systems:** Windows 7; Windows Vista; Windows XP
- **Processor:** 1GHz processor or equivalent (Minimum); Dual core or above processor or equivalent (Recommended)
- **RAM:** 1 GB (Minimum); 2 GB (Recommended)
- **Hard Disk:** Up to 1 GB of available space may be required
- **CD or DVD Drive:** CD-ROM or DVD drive required for installation
- **Display:** 800 x 600, 256 colours (Minimum); 1024 x 768 high colour, 32-bit (Recommended)
- **In Parlour Communications:**
  - **ATL Micro Marque 3s:** 1x USB or RS-232 communications port
  - **ATL Micro Marque 4:** 1x Ethernet connection
- **Out of Parlour Communications:**
  - **Mk3 Out Of Parlour:** 1x USB or RS-232 communications port
  - **ATL Micro Marque 4:** 1x Ethernet connection

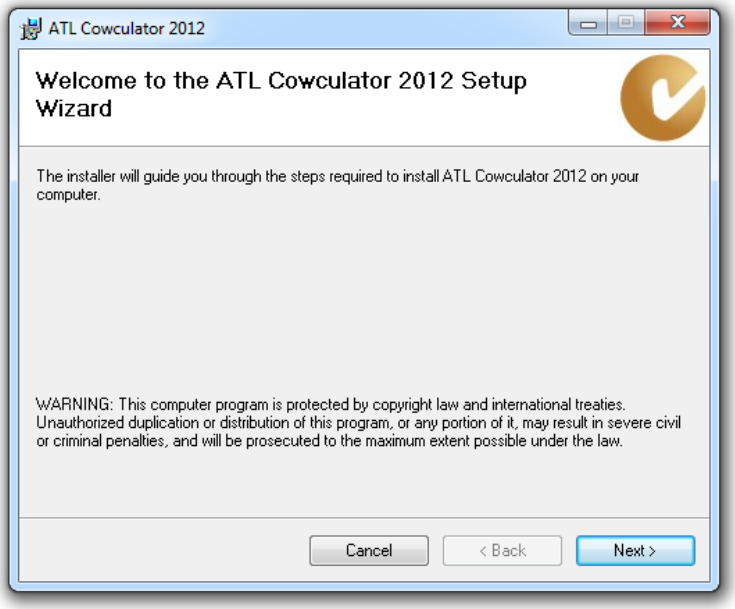
2.2 Installation

To start the installation process, please insert the ATL Cowculator CD into your CD-ROM drive. Once the CD has been loaded, the CD will auto-run and load the installation program. If the CD fails to auto-run, the installation program can be manually started by browsing the CD's contents and double clicking on the “setup.exe” program.

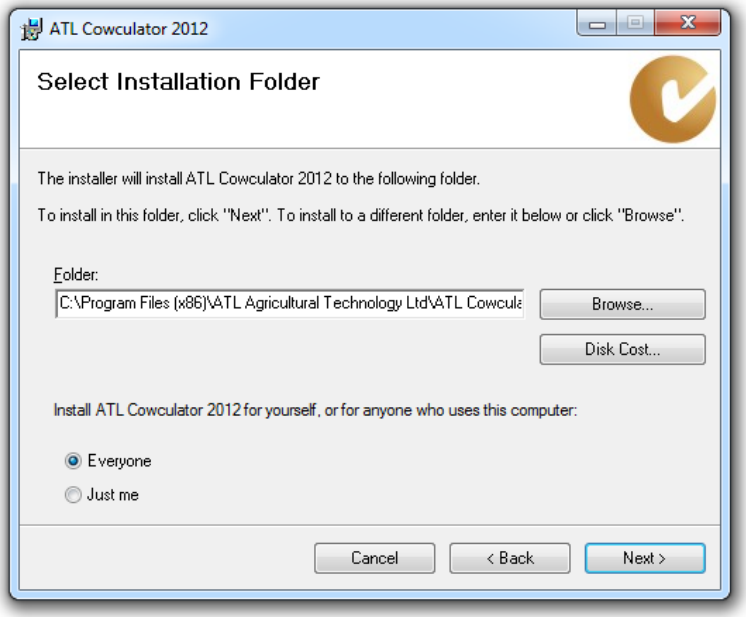
During the initial start-up of the installation program, the program will check the operating system version and make sure it has any required updates. If any required updates are missing they will be installed automatically, providing the computer is connected to the internet.

Continued overleaf...

The ATL Cowculator setup wizard will be displayed when all required updates have been installed. The wizard is shown below:

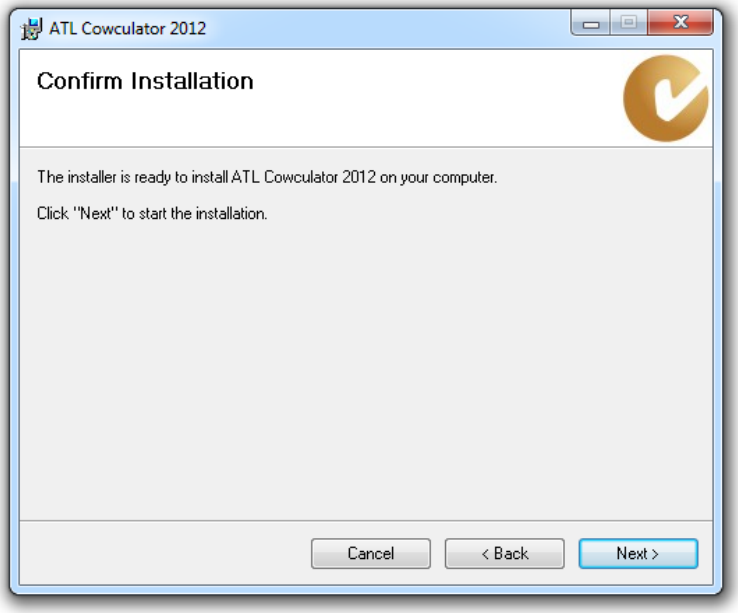


If at any time the user wishes to cancel the installation, they can do so by clicking the 'Cancel' button on the wizard.

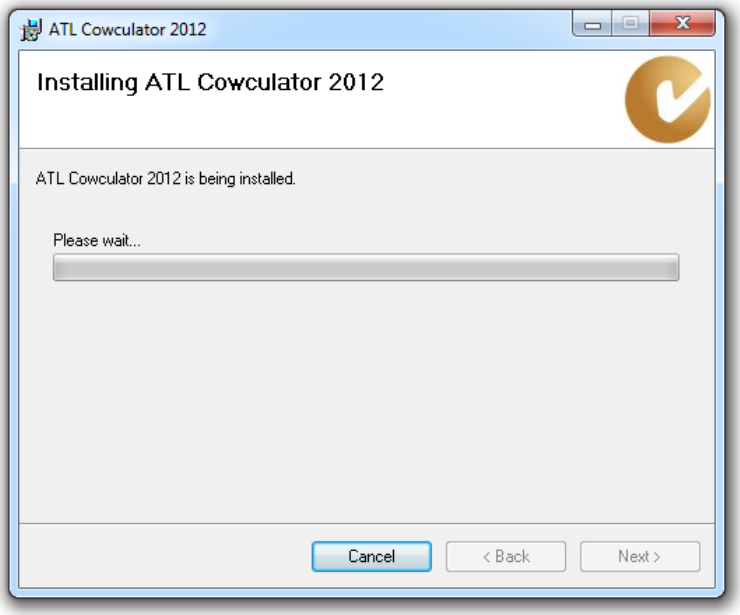


The select installation folder screen allows the user to manually select where the program will be installed to, it is not recommended to change this setting unless it is absolutely necessary. The user can also select if other users on the computer are allowed to use the program.

The next screen is the final screen before installation, this allows the user to cancel the installation if necessary. The screen is shown below:

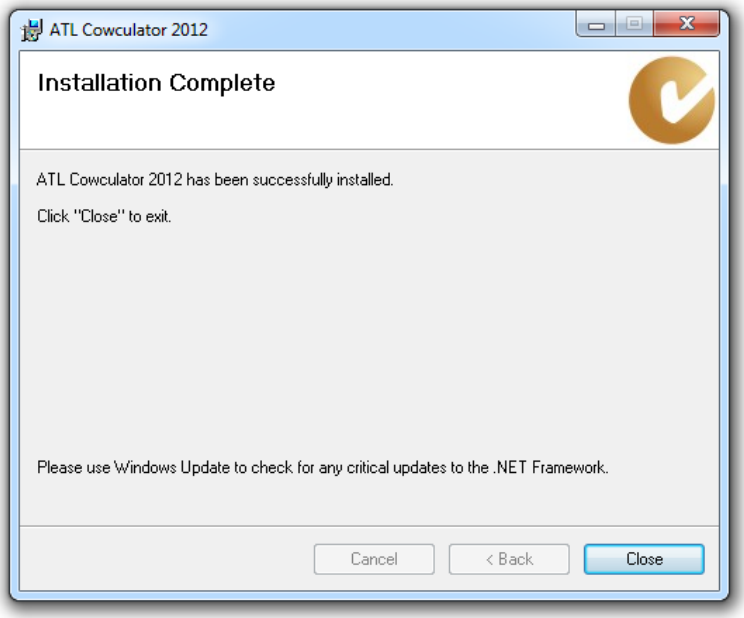


During the installation, the wizard will report its progress using a progress bar. This screen is shown below:



Once installation has been completed the final screen will be shown.

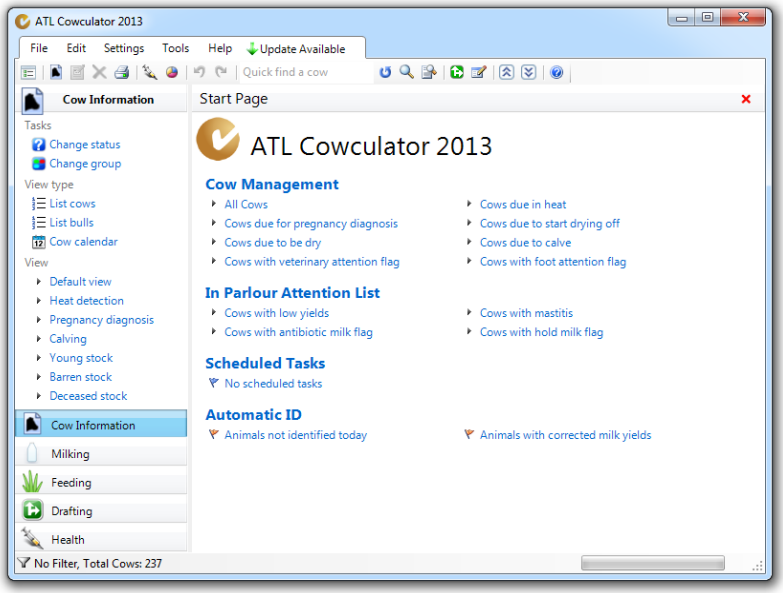
Clicking 'Close' will close the wizard.



The Program can now be run by clicking on the “ATL Cowculator” icon on the desktop. The icon is shown below;

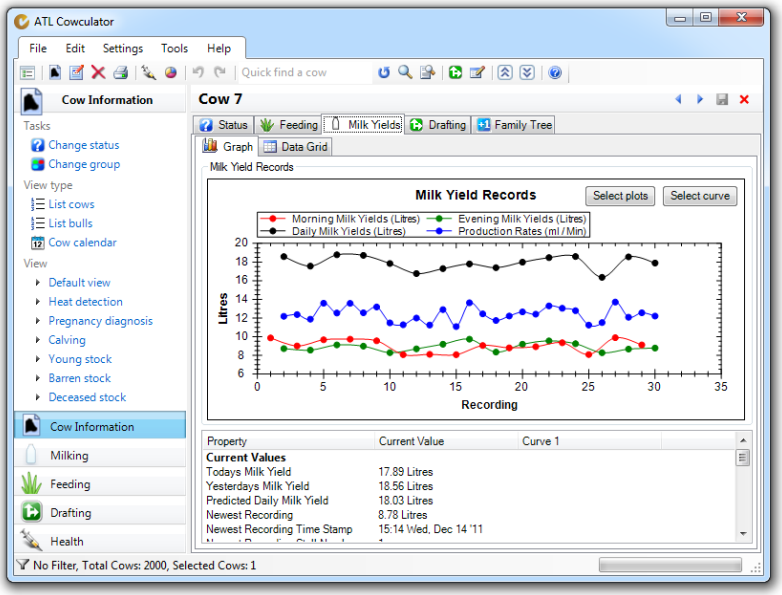
3 About ATL Cowculator

ATL Cowculator provides complete control of your herd. Access all the information stored in the parlour control and use it to improve milking performance. Also recall all information from the out-of-parlour system, view attentions and highlight problem animals.



3.1 Milking

ATL Cowculator stores milk yields from multiple lactations, allowing animal performance to be monitored on a milking by milking basis over the animal's lifetime. Predicted daily yields calculated from each animals milk production rate, highlights any milk yield deviations and possible health issues as soon as they happen.

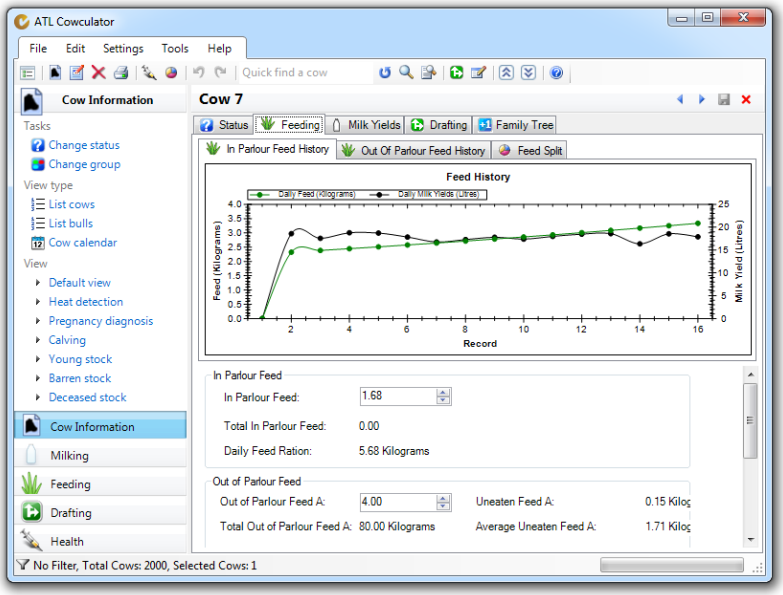


Herd performance can also be monitored with graphical data available on yearly, monthly and daily milking and feed totals.

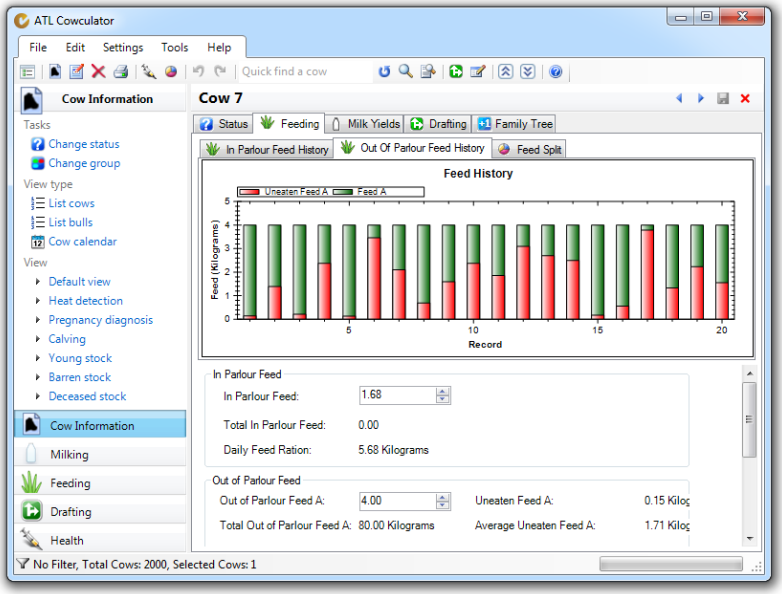
3.2 Feeding

Three simple ration calculations provide options for controlling how the animals are fed. These can be applied on an individual or group basis, and can be split between parlour and out of parlour feeders. The three types of ration calculation are:

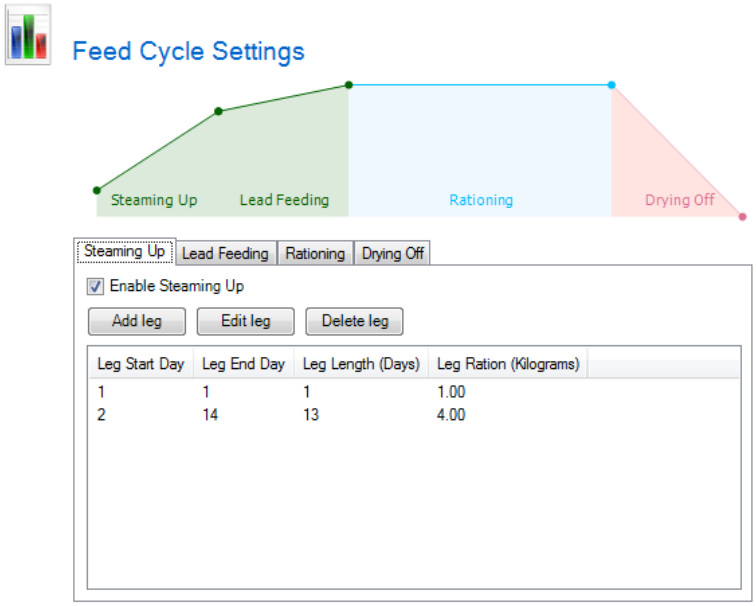
- Feed Table - Simple feeding
- Feed to Yield - Target animals based upon their individual yields
- Ration Curve - Target animals based on their days in milk



When connected to out of parlour feeders, the number of visits, the amount of uneaten feed and the daily feed history can be viewed.



The feeding process can also be broken down into four sections - steaming up, lead feeding, ration feeding and drying off.

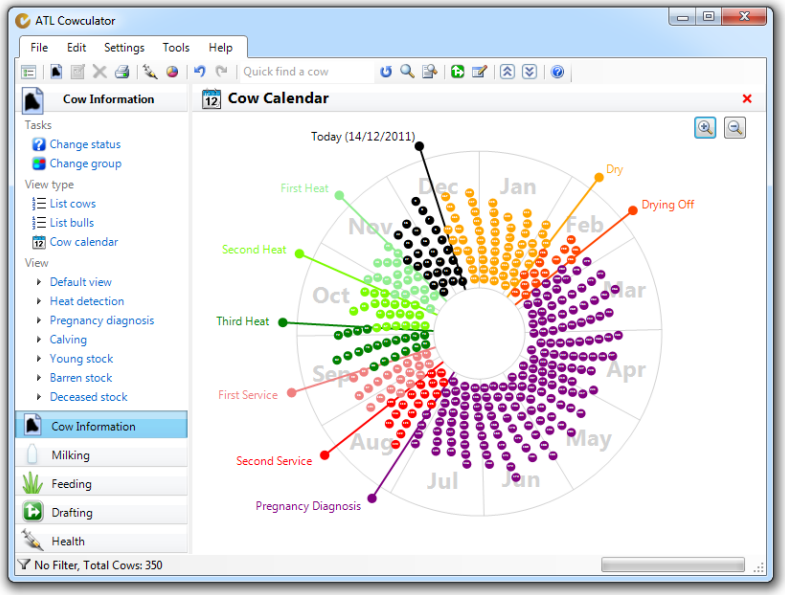


3.3 Sorting

More advanced animal sorting is also available within Cowculator 2016. Animals can be sorted always, once only or by date, giving the user more features than on the stand-alone sorting system.

3.4 Cow Calendar

Use the calendar to easily check each animal's position in the lactation cycle and highlight which animals are not performing.



3.5 Health Records and Medicine Use

Individual animal health records provide simple and effective logging of problems. Simple search and sort function allows animals with problems to be found and sorted for attention. Attentions can be logged against animals, such as high cell count, mastitis, low yields and foot attention.

Medicine use on animals can be recorded using the medicine editor, allowing a full history of medicine use to be recorded for individual animals.

3.6 Scheduled Tasks

ATL Cowculator also has scheduled tasks which allows the user to set automatic downloads, uploads and ration calculation at scheduled times each day. This reduces the need for the user to remember to carry out the download and allows complete lactation milk yield and feeding information to be stored for management purposes.

3.7 Reports

Design custom reports using the in-built, easy to use report designer.

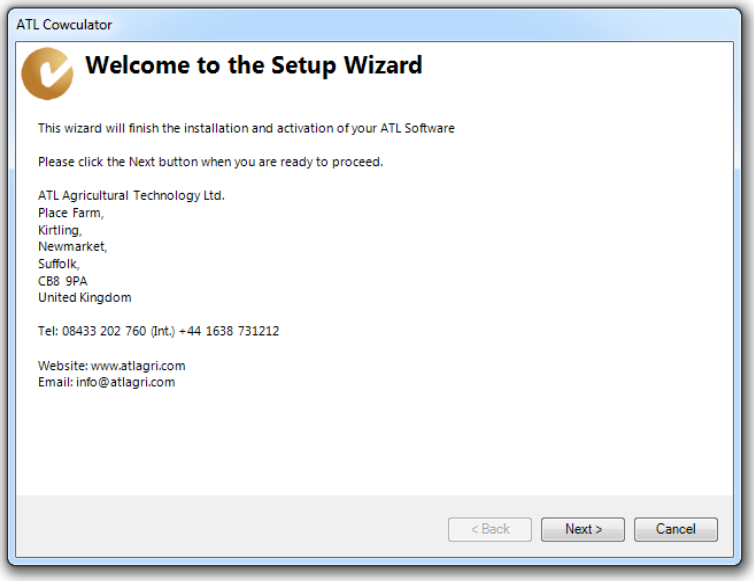
3.8 BCMS – CTS Online link

ATL Cowculator contains the ability to send information to and receive information from the British Cattle Movement Service (BCMS) using the Cattle Tracing Service (CTS Online). This link allows users to register births and deaths and report movements of animals on and off the holding.

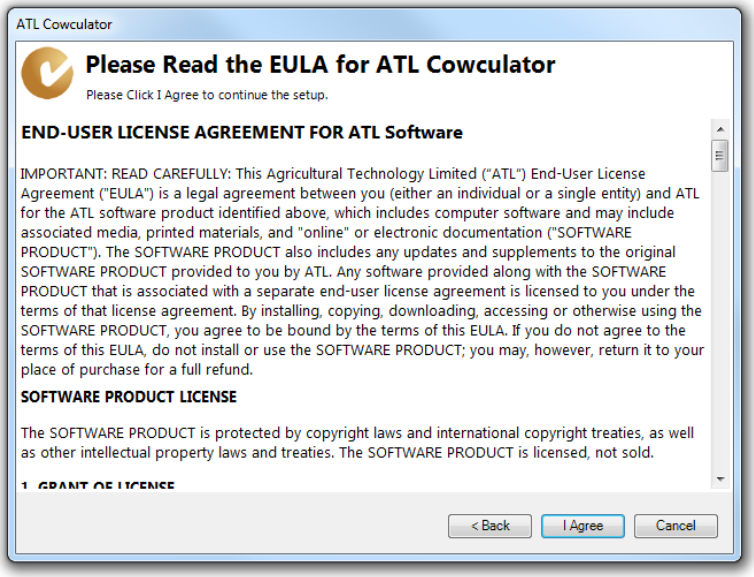
4 Starting ATL Cowculator for the First Time

4.1 First Run Wizard

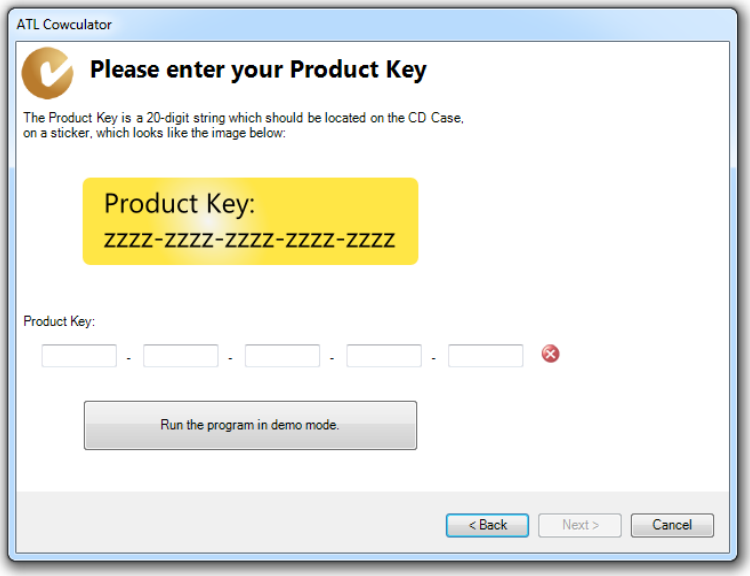
When the program is run for the first time, the program will show the First Run Wizard which will perform the final steps to installing and getting the program started. The Wizard is shown below;



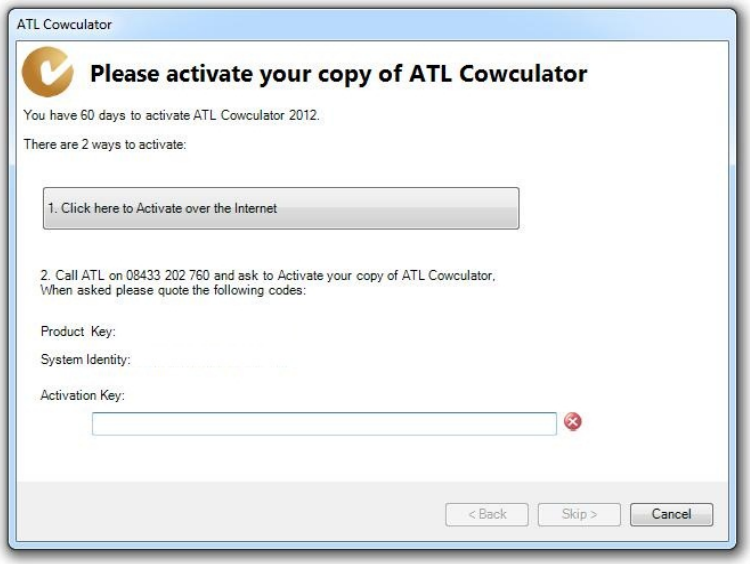
The wizard will show the End User License Agreement (EULA) for ATL Cowculator. This will need to be agreed with to use the program.



The next screen shown after the EULA screen is the Product Key entry screen. This is where the Product Key for your copy of ATL Cowculator needs to be entered.



The product key must be entered exactly as it is printed on the sticker inside the front cover of the CD-ROM case. When the a valid key is entered the red cross will change to a green tick and the 'Next' button will become click-able.



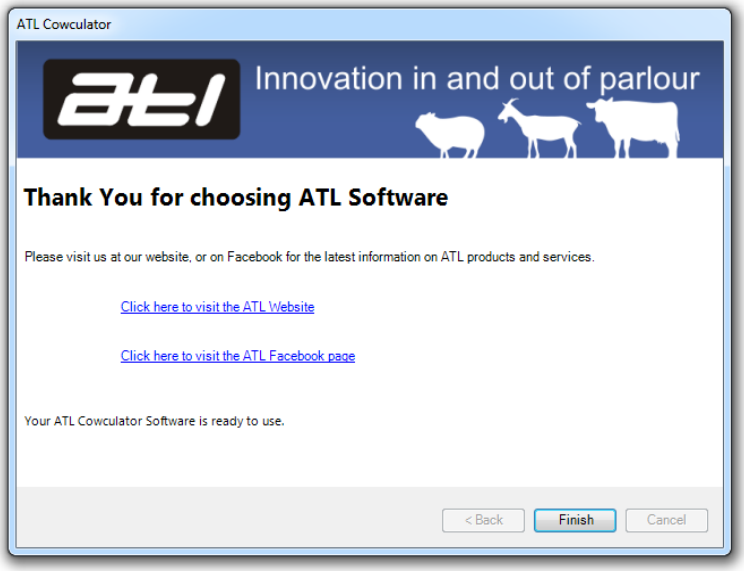
The goal of Product Activation is to reduce a form of piracy known as "casual copying" or "softlifting." Casual copying is a form of piracy characterized by the sharing of software between people in a way that infringes on the software's end user license agreement (EULA). For instance, Windows XP is primarily licensed for use on a single PC and without purchasing additional licenses cannot be installed on other machines. If someone were to obtain a copy of Windows XP and load it on his or her PC, then share it with a second person who loaded it on his or her PC, they would be guilty of casual copying.

Most licenses allow software to be re-installed and activated on the same PC an unlimited number of times. To ensure that you are using your license properly, please see your end user license agreement or product use rights for details on a specific product.

Casual copying accounts for a large portion of the economic losses due to piracy. Over time, reduced piracy means that the software industry can invest more in product development, quality and support. This ensures better products and more innovation for customers. Ultimately, customers will benefit from the economic impact of reduced piracy through increased job opportunities and higher wages.

Customers may activate the product via one of two methods:

1. Internet. ATL servers process the activation and silently activate the product.
2. Telephone. Customer service representatives process activations and exceptions.



Once the product key is entered the wizard is finished. Click Finish to load the program.

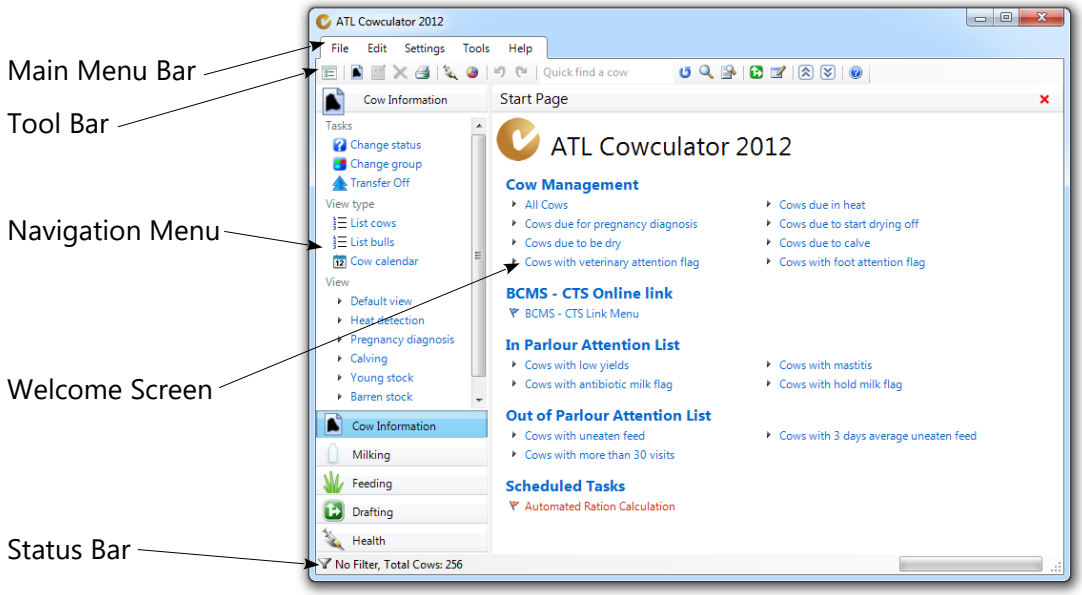
4.2 Connecting ATL Cowculator to an ATL Control

ATL Cowculator features a new system where-by the communications ports are automatically detected and tested to see if they are connected to an ATL control. This configuration allows the user to simply click upload or download and have the program configure itself.

The only requirements are that the program is correctly set up so that the correct controls will be searched for. This can be done by selecting the types of controls from the Settings dialog. See Chapter 7 for more information.

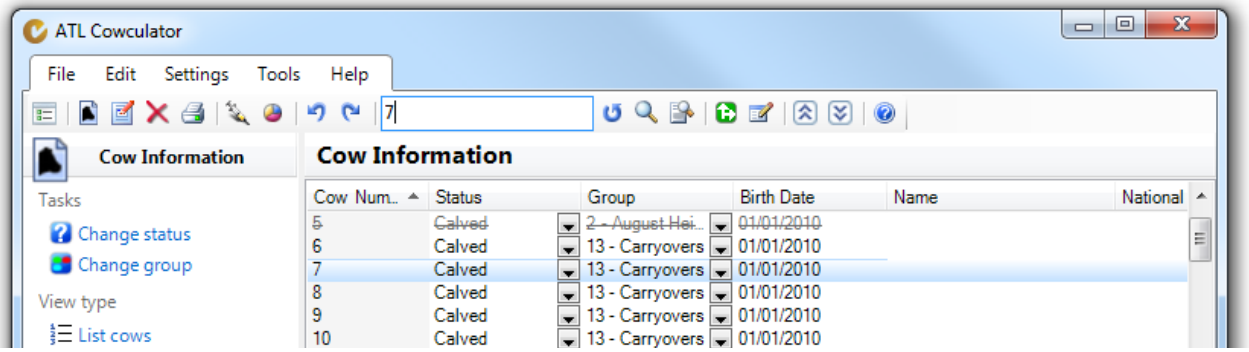
4.3 The ATL Cowculator Main Window and Welcome Screen

The welcome screen is a special screen designed for the user to quickly access core parts of the program. The screen is shown when ATL Cowculator first loads, and can be accessed at all times by clicking the "Show Welcome Screen" button on the toolbar.



The welcome screen contains 4 link lists, each dealing with a specified area. These quick links provide fast access to lists of animals. For example, the "Animals with low yields" link allows users to access animals which have not produced enough milk in accordance with their predicted daily yield.

If the welcome screen is closed, it is replaced by a list view showing the animal number, status and other information. This list view is by default ordered by animal number.



The screen is made up of five main areas; the main menu bar, the tool bar, the navigation menu, the welcome screen or list view, and the status bar.

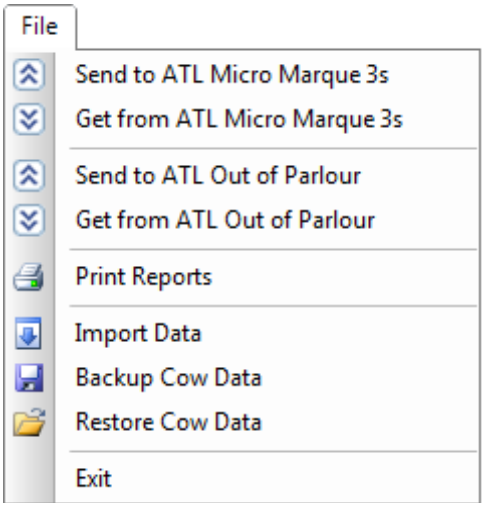
These are covered in the following chapters.

5 The Main Menu Bar

The main menu bar provides access to the main functions of ATL Cowculator. These functions are grouped under the following headings; File, Edit, Settings, Tools and Help.

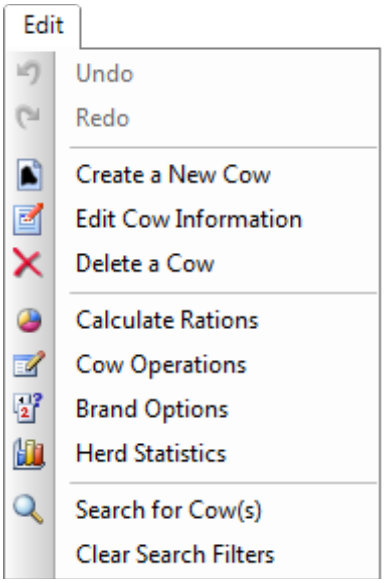
5.1 The File Menu

The File menu provides short cuts for herd based functions;



- Send to ATL Micro Marque 3s: Send all data to the ATL Micro Marque 3s control. See Chapter 8 for more information.
- Get from ATL Micro Marque 3s: Get all data from the ATL Micro Marque 3s control. See Chapter 8 for more information.
- Send to ATL Out of Parlour: Sends all data to the ATL Out of Parlour control. See Chapter 8 for more information. *Please note that this item is only visible if the program has the Out of Parlour control enabled in the settings.*
- Get from ATL Out of Parlour: Get all data from the ATL Out of Parlour control. See Chapter 8 for more information. *Please note that this item is only visible if the program has the Out of Parlour control enabled in the settings.*
- Print Reports: This menu contains a sub-menu that allows the user to select the printout type they require. See Section 25 for descriptions of all the reports available for printing.
- Import Data: This menu item allows the user to import data from various file formats into ATL Cowculator. See Section 8 for more information.
- Backup Animal Data: This will save a back-up copy of the animal database in the location of your choice. See Section 24 for more information.
- Restore Animal Data: This will restore a back-up copy of the animal data file into the animal database. See Section 24 for more information.
- Exit: This will exit the program, saving the data automatically.

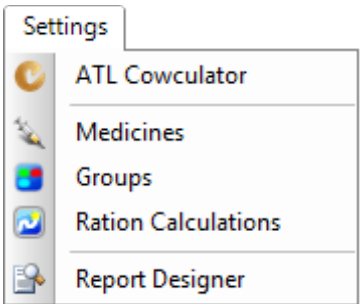
5.2 The Edit Menu



These commands perform the following functions;

- Undo: Undoes the previous action on a animal.
- Redo: Redoes the previously undone action on a animal.
- Create a New Animal: Shows the New Animal(s) dialog, See Chapter 8 for more information.
- Edit Animal Information: Shows the Animal Record screen and allows the display of more detailed information on an individual animal. See Chapter 19 for more information.
- Delete a Animal: Opens the Delete Animals dialog. See Chapter 11 for more information.
- Calculate Rations: Performs the Ration Calculation routine. See Chapter 19 for more information.
- Animal Operations: Opens the Animal Operations dialog, See Chapter 9 for more information.
- Brand Options: Opens the Brand Options dialog. Allows users to easily change animals freeze brands and ear tags. See Chapter 10 for more information.
- Herd Statistics: Opens the Herd Statistics dialog. See Chapter 22 for more information.
- Search for Animal(s): Opens the Search for Animals dialog, allowing recursive searches through the animal data. See Chapter 23 for more information.
- Clear Search Filters: Clears all searches and shows all animals in the Animal List View.

5.3 The Settings Menu

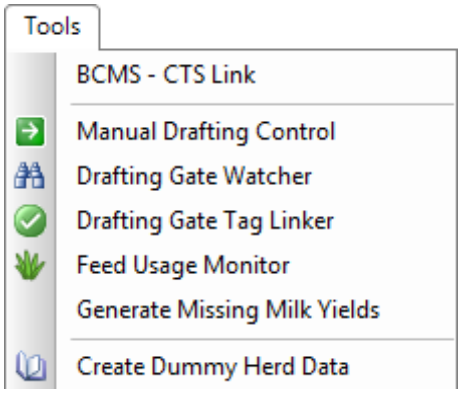


The Settings menu provides access to settings in ATL Cowculator.

- ATL Cowculator: Shows the Program Settings dialog for ATL Cowculator, See Chapter 7 for more information.
- Medicines: Shows the Medicine Editor, allowing the user to input medicines for use by the program. See Chapter 17 for more information.
- Groups: Shows the Groups configuration screen, This gives options for ration calculations and group drafting. See Chapter 20 for more information.
- Ration Calculations: This opens the ration calculations editor. See Chapter 21 for more information.
- Report Designer: This opens the report designer. The report designer allows users to design their own reports for printing. See Chapter 25 for more information.

5.4 The Tools Menu

The Tools menu consists of useful functions for use in the ATL Micro Marque 4.



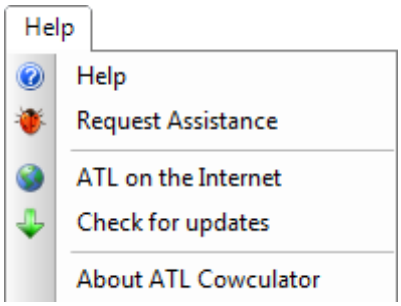
- BCMS – CTS Link: This tool allows the user to send a receive data from BCMS through the CTS Online Link. See Chapter 28 for more information.
- Manual Drafting Control: This tool allows the user to control the drafting gates manually. *Please Note: This tool is only available for the ATL Micro Marque 4.*
- Drafting Gate Watcher: This tool watches all tags passing through a drafting gate. It then displays the tag code and animal number if it is linked. *Please Note: This tool is only available for*

the ATL Micro Marque 4.

- Drafting Gate Tag Linker: This tool watches for unlinked tags being detected by any of the drafting gates connected to the Micro Marque 4 system. The user can then choose to link the tag to a animal number or to skip it. *Please Note: This tool is only available for the ATL Micro Marque 4.*
- Feed Usage Monitor: This tool allows you to monitor the feed being used by the system. *Please Note: This tool is only available for the ATL Micro Marque 4.*
- Generate Missing Milk Yields: This tool allows you to generate any missing yields from the predicted information available fro the animal.
- Create Dummy Herd Data: This menu item will create dummy animals with dummy information.

More information on these tools is available in Chapter 26.

5.5 The Help Menu



The Help menu allows access to this user guide and the 'About' dialog. As well as the following:

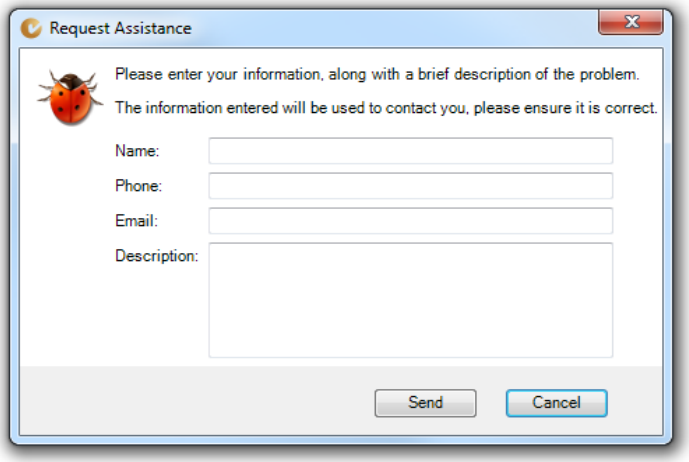
The “Request Assistance” menu item allows the user to directly ask ATL for help by sending an automatic email with the users contact information and a copy of the database.

The "ATL on the Internet" menu item takes the user to the ATL website.

The “Check for updates” menu item checks on the Internet for a newer version of the program, if one is available it will download the new update and allow the user to install it.

Please Note: The “Request Assistance”, “ATL on the Internet” and “Check for Updates” menu items all require an internet connection.

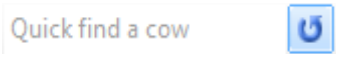
5.5.1 Requesting Assistance



The user can request help from ATL by clicking the “Request Assistance” menu item on the help menu. This will open the Request Assistance dialog, which is shown below. The user must enter their name and a contact method, either through email or phone, and a description of the problem. When the user clicks send, it will make an Assistance Request to ATL containing the animal data. ATL will then contact the user.

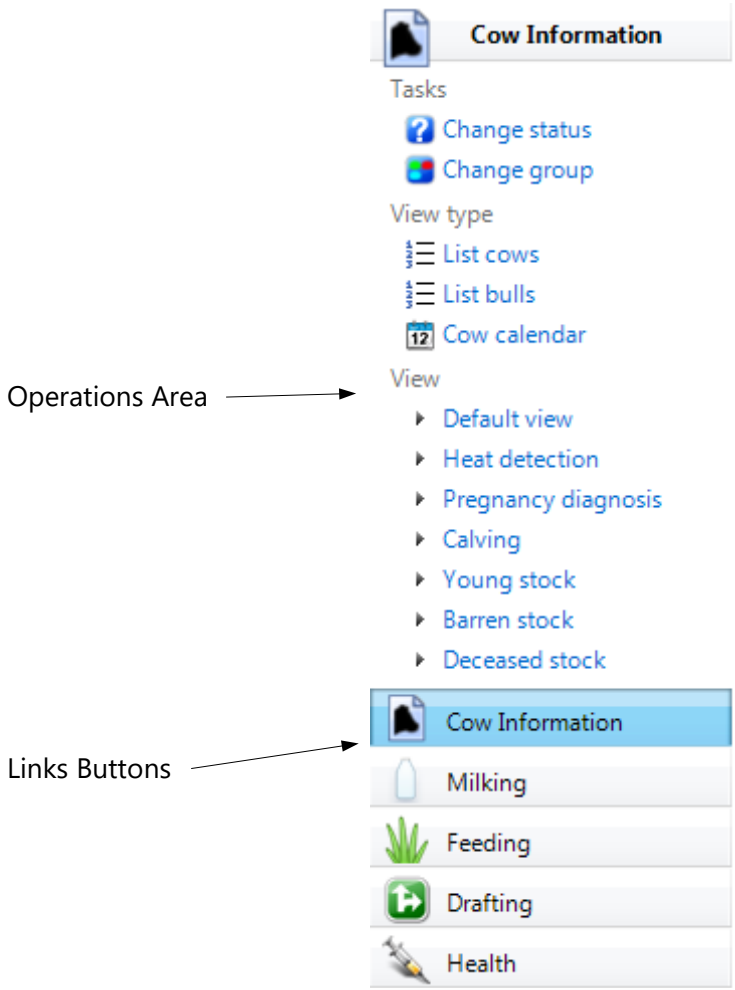
6 The Tool Bar

The tool bar contains a row of icons for the more frequently used commands.

- The Show Welcome Screen button  shows the welcome screen.
- The Create New Animal(s) button  shows the New Animal(s) dialog. See Chapter 8 for more information.
- The Edit Animal Information button  shows the currently highlighted animal in the Animal Record screen. See Chapter 19 for more information.
- The Delete Animal button  deletes the currently highlighted animal or animals. See Chapter 11 for more information.
- The Print button  shows the Open Report dialog, See Chapter 25 for more information.
- The Administer Medicine Dose button  allows the user to administer a medicine dose to a single animal or multiple animals that are selected in the list view. See Chapter 17 for more information.
- The Calculate Rations button  shows the Calculate Rations dialog. See Chapter 21 for more information.
- The Undo button  undoes the last action.
- The Redo button  redoes the last undone action.
- The Quick Find Animal entry box 

allows the user to simply enter a animal number into the box and ATL Cowculator will find the animal in the list and select the row. See Chapter 23 for more information.
- The Search button  shows the Search dialog. See Chapter 23 for more information.
- The Clear Search button  clears the current search filters. See Chapter 23 for more information.
- The Mark Animals for Drafting button  shows the Mark Animals for Drafting dialog. See SChapter 19 for more information.
- The Animal Operations button  shows the Animal Operations dialog. See Chapter 9 for more information.
- The 'Send to' and 'Get from' buttons;  and  respectively. These two buttons instruct the ATL Cowculator program to send / get animal data to and from any connected controls. See Chapter 8 for more information.
- The Help button  shows this file.

7 The Navigation Menu



The navigation menu is designed to allow the user quick access to commonly performed tasks.

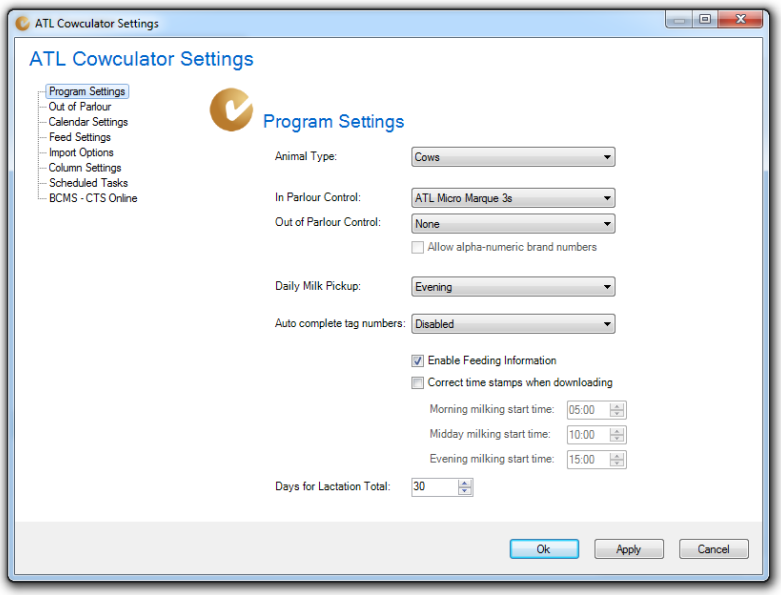
The menu is made up of two main areas. The first is the bottom link buttons, which allow the user to switch between 5 different areas of the program - Animal Information, Milking, Feeding, Drafting and Health.

The second is the operations area which provides the user with quick links to operations on the data displayed. The operations area changes its contents according to the data which is being displayed. So in the example above, the operations area allows the user to drill down into the animal information and see specific information about calving animals or young stock, or change the status or group of an animal.

8 Cowculator Settings

The ATL Cowculator Settings dialog allows users to change various program settings. Settings are available for the out of parlour feeding system, calendar, feeding, importing, customising columns and scheduled tasks.

The ATL Cowculator Settings dialog can be found by clicking on Settings on the Main Menu bar, and then ATL Cowulator. Each setting is detailed below:



8.1 The Program Settings Tab

The program settings tab allows the user to change settings for ATL Cowculator.

8.1.1 Animal Type

ATL Cowculator can be used on with ATL equipment on systems for animals, sheep or goats. The program will changes the wording depending on which animal type is selected. Please select the correct animal type using this drop down menu.

8.1.2 In Parlour Control and Out of Parlour Control

These settings allow the user to change the type of control that is connected to the ATL Cowculator program. ATL Cowculator supports both the in parlour and out of parlour systems, the user can select which systems are connected to the control using this screen.

- In Parlour Control - Either MicroMarque3S or MicroMarque4
- Out of Parlour Control - ATL Out of Parlour

8.1.3 Daily Milk Pickup

ATL Cowculator allows the user to change the time that their milk processor collects their milk and

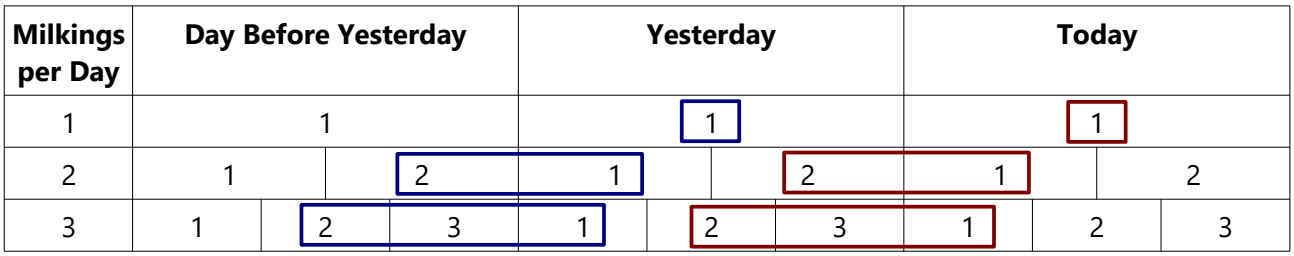
therefore change all the milk totals throughout the program. This allows the user to compare the total milk yields with the milk tanker printout and show the accuracy of the milk meter system and forward plan using the historical data stored within the program.

The following diagrams explain which milk yields are used within the totals depending on whether morning, afternoon or evening milk pick up is selected.

- Blue Box - Milkings included within the blue box are used to calculate yesterday's milk yield total.
- Red Box - Milkings included within the red box are used to calculate today's milk yield total.

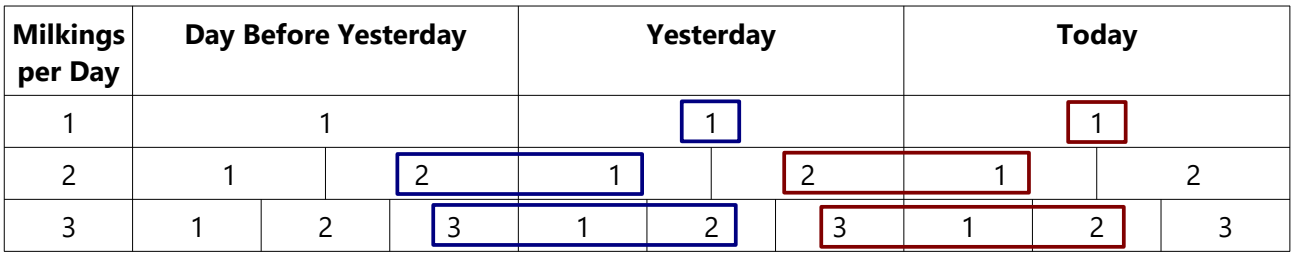
Morning Daily Milk Yield Pickup

Should be selected on farms where the milk processor collects milk after the morning milking. If morning daily milk pick up is selected, the following milking are used to calculate milk yield totals:



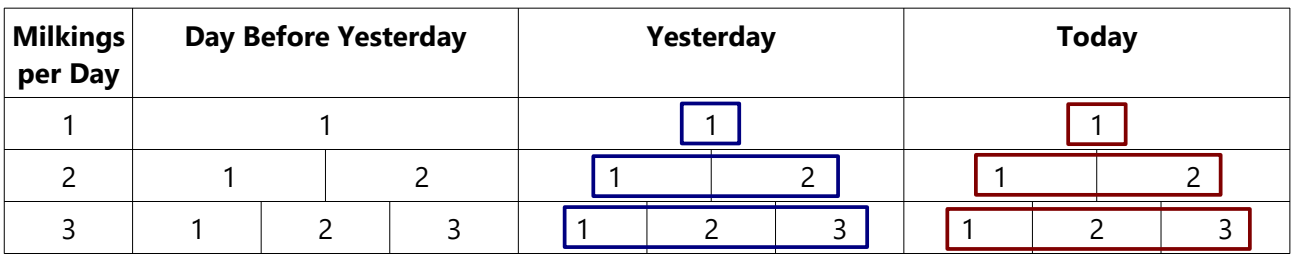
Afternoon Daily Milk Yield Pickup

Should be selected on farms where the milk processor collects milk after the midday milking. If afternoon daily milk pick up is selected, the following milking are used to calculate milk yield totals:



Evening Daily Milk Yield Pick Up

Should be selected on farms where the milk processor collects milk after the evening milking. If evening daily milk pick up is selected, the following milking are used to calculate milk yield totals:



8.1.4 Auto-complete Tag Numbers

The screen also allows the user to specify auto-complete on tag numbers allowing the user to only type in the significant lower digits of a tag code. The program will complete the code for the correct type of

tag.

- Disabled - Do not auto-complete tag numbers
- UK Reusable - Auto-complete UK resuable tag numbers
- UK Non-Reusable - Auto-complete UK non-reusable tag numbers

Please note that alpha numeric animal numbers are only available on the MicroMarque4.

8.1.5 Enable Feeding Information

This allows the user to hide the feeding information tab on the navigation menu if the system is on a non-feeding parlour and does not have an out of parlour feeding system connected.

8.1.6 Correct Time Stamps When Downloading from MicroMarque3S

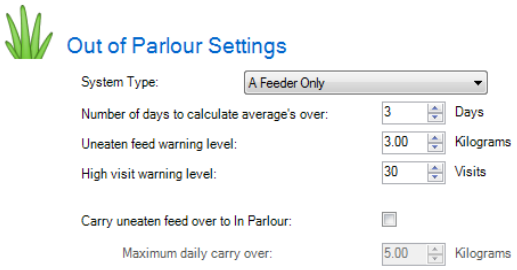
This setting allows users with older version of software in their parlour controls, to introduce the correct times of milkings for the animals. This allows the program to make a prediction for the production rates of the animals.

8.1.7 Days for Lactation Total

This setting defines the number of days for which the variable days lactation total is calculated.

8.2 The Out of Parlour Settings Tab

The Out of Parlour Settings tab allows the user to choose certain settings if ATL Cowculator is connected to an out of parlour system.



The following settings are user selectable:

- System Type - Select either A Feeder Only (one feeder per station) or A and B Feeders (two feeders per station).
- Number of Days to Calculate Averages Over - This is the number of days to calculate average visits and average uneaten feed over (shown on Feeding tab of Animal Record).
- Uneaten Feed Warning Level - The amount of feed left uneaten before a warning is generated within ATL Cowculator.
- High Visit Warning Level - The number of visits before a warning is generated within ATL Cowculator.
- Carry Uneaten Feed Over to In Parlour – This box adds any uneaten feed in the 24 hour cycle on the out of parlour feeding system to the following days parlour feed ration.

8.3 The Calendar Settings Tab

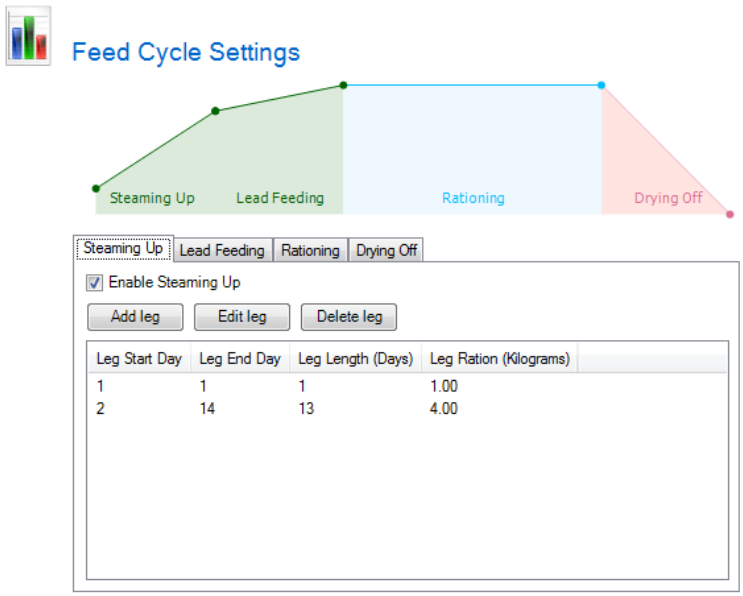
The Calendar Information tab allows the user to change the calendar settings of the program. These settings are used when calculating the predicted status for animals.

The following settings can be changed:

- Days before Pregnancy Diagnosis - This is the number of days after an animal has been serviced that a pregnancy diagnosis attention will be raised.
- Days before Steaming Up - This is the number of days to wait after an animal has been dried off before steaming up can begin.
- Days between Heat Cycles - This is the number of days between consecutive heat cycles. The next heat cycle date will be displayed in the animals Next Heat Cycle field.
- Days until Calving - This is the number of days between an animals calving date and the service date after the animal has been marked as pregnant in the status selection box. The predicted next calving date value is calculated from the service date plus the number of days entered.
- Days until First Heat - This is the number of days until a young animal will come into heat. The date is calculated using the birth date of the animal.
- Days until Heat after Calving - This is the number of days after an animal has calved that she will come into heat.
- Days until Next Service - This is the number of days until the next recommended service.
- Drying off Period Start - This is the number of days before the predicted calving date that the animal will be flagged as requiring drying off.
- Dry Period Start - This is the number of days before the predicted calving date that the animal will be flagged as requiring to be dry.

8.4 The Feed Cycle Settings Tab

The Feed Cycle Settings tab allows the user to change settings specifically related to feeding. The settings include steaming up, lead feeding, rationing and drying off. This is based on feeding animals.



8.4.1 Steaming Up

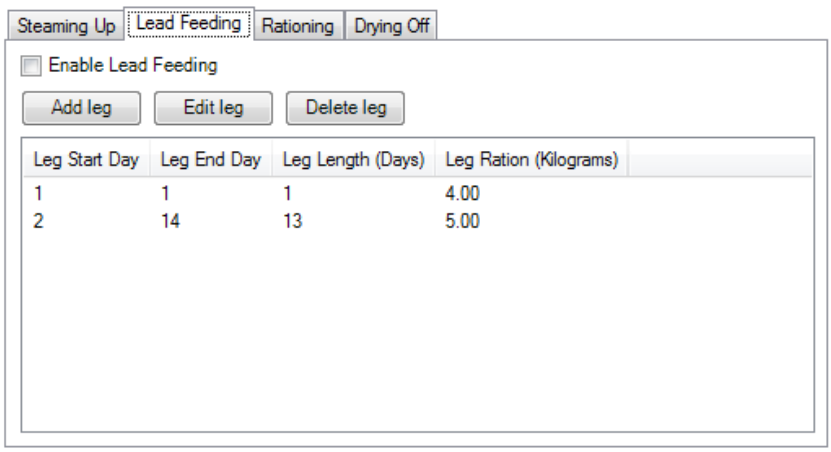
Steaming up is the feeding of rations to late pregnant animals in an attempt to promote maximum milk production from the very beginning of the lactation. Steaming up usually commences about 4 weeks before the due date.

Steaming up is disabled by default. When the tick box is checked and the steaming up functions are enabled, the user can enter a curve to steam-up to. The curve can have as many points on as the user requires. The time between each point is called a leg. Each leg has an associated ration.

The steaming up calculation will only be used when the animal's status is set to steaming up. The process will continue until the end of the curve, or until the animal's status is changed to calved.

8.4.2 Lead Feeding

Lead feeding is the feeding of rations to newly calved animals, building their rations up to the normal rationing level. Lead feeding is usually carried out for about 4 weeks after calving.



Lead feeding is disabled by default. When the tick box is checked and the lead feeding functions are enabled, the user can enter a curve to lead feed to. The curve have as many points on as the user requires. The line between each point is called a leg. Each leg has an associated ration.

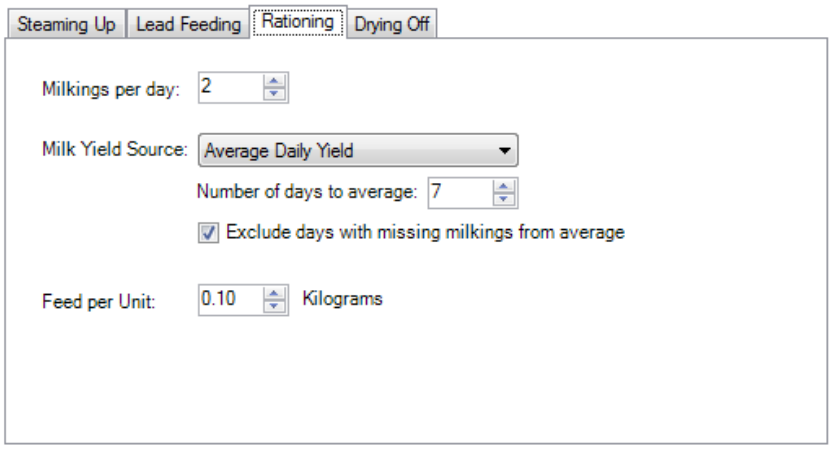
The curve will start when the animal status is set to "Calved" and continue for the length of the curve, after which the rationing settings for that animals group will be used for calculating rations.

8.4.3 Rationing

Rationing is the standard feeding regime for the animals. There are various options for ration feeding that can be carried out from ATL Cowculator. This is the part of the feeding regime where the ration calculations can be fed to the animals. Please note that ration calculations do not have to be used within this section of the feeding regime. Custom feeding regimes which are manually entered by the user on an individual animal basis are also available, along with flat rate feeding

The following settings can be changed by the user:

- Milkings per Day - The number of milkings per day. If set to two milkings per day, the milk yield graph will show morning and evening milkings. Where as, if set to three milkings per day, the milk yield graph will show morning, midday and evening milkings.



- Milk Yield Source - The milk yield source value is the milk yield used within the feed table and feed to yield ration calculations. The milk yield source values are dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information. It can be one of the following:
    - Yesterdays Daily Milk Yield - The daily milk yield recorded yesterday.
    - Average Daily Yield - The average daily milk yield over a user-selectable number of days.
    - Predicted Daily Yield - The calculated predicted daily yield using the production rate. This is the average production rate over the last 14 days.
    - Newest Recording – The newest recording. This setting is only recommended for users using the NMR DataStream import facility.
- Number of Days to Average - This is the number of days to average the daily milk yield over, to provide the Average Daily Yield. Only available if Average Daily Yield selected from "Milk Yield Source" drop-down.

- Exclude days with missing milkings from average - This removes rogue values from the average calculations, thereby preventing large reductions in the average daily yield and affecting feeding regime.
- Feed per Unit – The amount of feed which represents one unit in the parlour control. For example, the parlour control could be calibrated to one feed unit equalling 0.5 kilograms of feed. Therefore, this should be set to 0.5 kilograms, otherwise the rations will not be fed correctly.

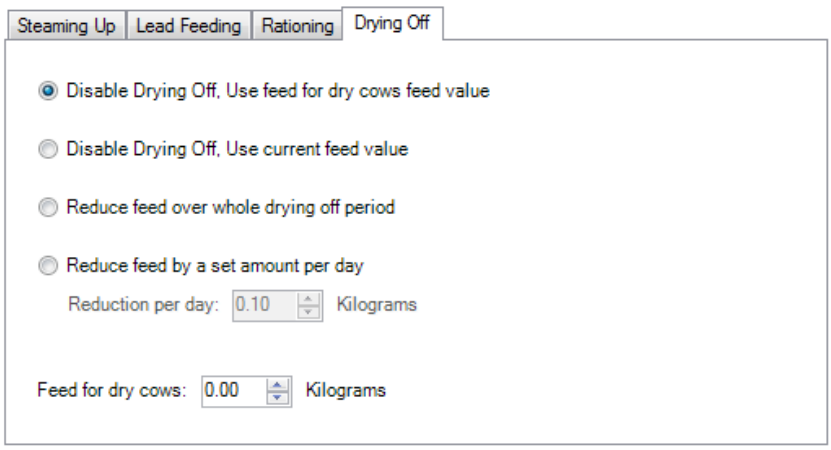
8.4.4 Drying Off

The drying off setting allows the user to set the feeding regime for animals during both the drying off and dry periods. The drying off period involves the reduction in feeding down to a low-level or zero during the dry period. The drying off feeding regime will occur when a animal's status is changed to drying off and will continue until the drying off period ends and the animal's status is changed to dry.

There are several options for feeding animals during the drying off period. These are:

- Disable Drying Off, Use feed for dry animals value - This setting will disable drying off and any animals will be allocated the 'feed for dry animals' feed value.
- Disable Drying Off, Use current feed - This setting will disable drying off and any animals will not have their allocation changed from the rationing period.
- Reduce feed over whole drying off period - This setting uses two settings from the Calendar Settings to calculate the length of the drying off period and then reduces feed by a set amount each day until it reaches the feed for dry animals feed value.

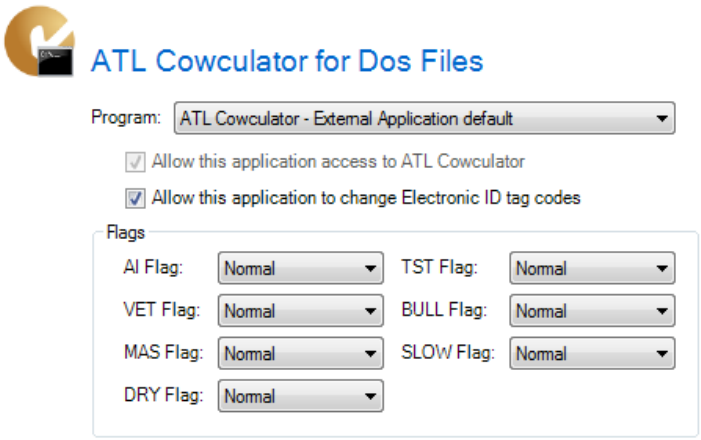
For example , if a animal is being fed a ration of 4.2 kilograms at the end of the rationing period, the default setting for the Drying Off Period Start is 70 days, the Dry Period Start is 56 days, and the feed for dry animals is set to 0.00 kilograms. This means that the drying off period is 14 days. Therefore, the ration will be reduced by 0.3 kilograms per day until the dry period starts.



- Reduce feed by a set amount per day - This setting allows the user to reduce the feed amount by a set amount per day over the drying off period.
- Feed for dry animals value - the amount of feed in kilograms that dry animals will be fed each day.

8.5 The Import Options Tab

The Import Options tab allows the user to edit the way external software programs access ATL Cowculator.

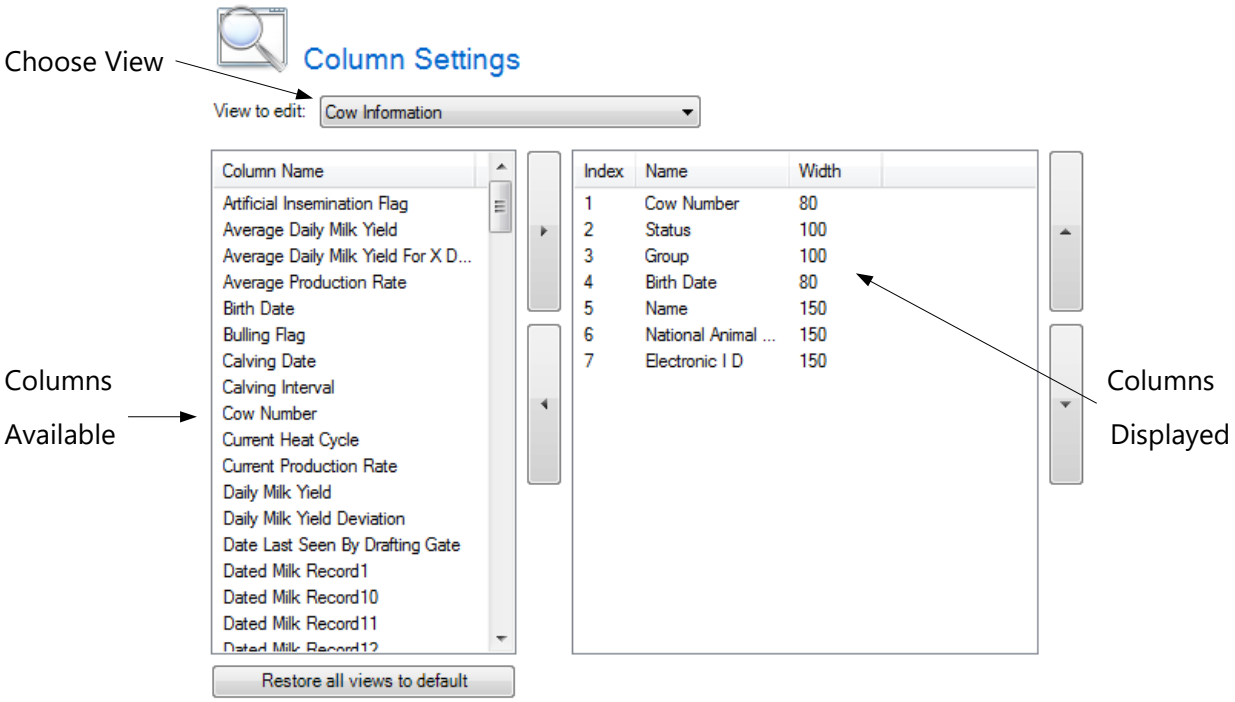


The following settings are available:

- Program - Choose the program the settings are to affect. Options are import dialog, MicroMarque3S upload / download or external application.
- Allow this application to change electronic ID tag codes - ticked by default - un-tick the check box if the program is not to change the electronic tag codes.
- Flags - Instructs the program on how to treat the attention flags - options are normal, first left, first right, second left, second right or ignore.

8.6 Column Settings Tab

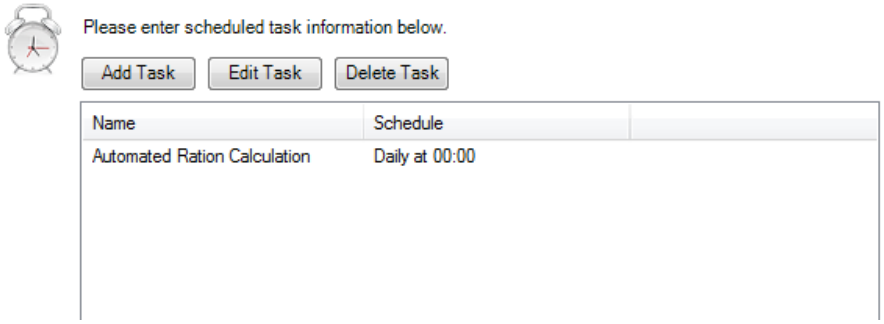
The Column Settings tab allows the user to change each view in ATL Cowculator to contain the data fields they require. The drop-down menu lets the user choose the view to be changed.



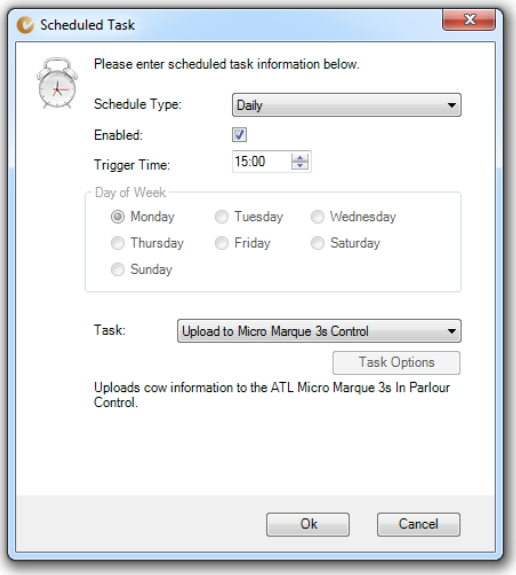
8.7 The Scheduled Tasks Tab

The scheduled tasks tab allows the user to create scheduled tasks which automatically download the animal data from the MicroMarque3S and/or Out of Parlour control, calculate rations and then upload the data back to relevant controls. Therefore, this is designed to remove the need for the user to remember to carry out these tasks. For the scheduled tasks to work, it is recommended that the computer is left on all the time.

Even if ration calculations are not being used, and the system is connected to milk meters, it is recommended that the animal data is automatically downloaded from the MicroMarque3S to store the milk yields for each animals entire lactation.



To create a new scheduled task the user can click the Add Task button. This will open the scheduled task dialog and the scheduled task can be created.



This is the same dialog as the Edit Task button will show. The following settings are user selectable:

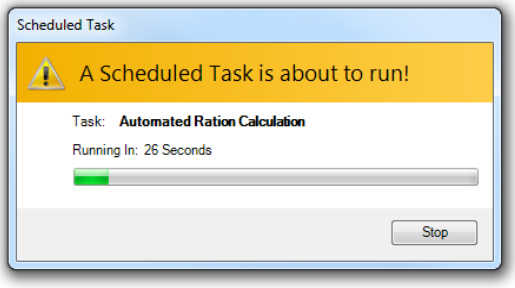
- Schedule Type - Daily or weekly
- Enabled - If the check box is ticked the scheduled task is enabled and if it is un-ticked the scheduled task is disabled and will not run.
- Trigger Time - The time the scheduled task should run. Milking times should be avoided for all downloading and uploading of animal data to Micromarque3S.
- Day of Week - Only available if scheduled task selected to be run weekly.
- Tasks - There are ten scheduled task to choose from.

Available tasks are as follows:

1. Upload to MicroMarque 3s Control - This task will only upload the animal data to the MicroMarque3s Control.
2. Download from MicroMarque3s Control - This task will only download the animal data to the MicroMarque3s Control.
3. Upload to Mk3 Out of Parlour Control - This task will only upload the animal data to the ATL Mk3 Out of Parlour Control.
4. Download from Mk3 Out of Parlour Control - This task will only download the animal data to the ATL Mk3 Out of Parlour Control.
5. Calculate Rations - This task will only calculate the rations for the entire herd.
6. Calculate Rations for MicroMarque3s Control - The task will download the animal data from the MicroMarque3s control, calculate the rations from the new milk yield information and then upload the new animal data back to the MicroMarque3s control.
7. Calculate Rations for the Mk3 Out of Parlour - The task will download the animal data from the ATL Mk3 Out of Parlour control, calculate the rations and then upload the new animal data back to the ATL Mk3 Out of Parlour control.
8. Calculate Rations for MicroMarque3s and Mk3 Out of Parlour - The task will download the animal data from the MicroMarque3s control and also download the ration usages from the ATL Mk3 Out of Parlour control, calculate the rations from the new milk yield information and then upload the new animal data back to both the MicroMarque3s control and the Mk3 Out of Parlour control.
9. Backup Animal Data – This task will automatically perform a backup of the data.
10. Print Reports – This task will automatically print a user selected report.

When a scheduled task is about to be executed, the program will display a warning message in the lower right hand corner of the screen. This will allow the user to cancel the task if required by clicking the stop button. The warning dialog is shown below:

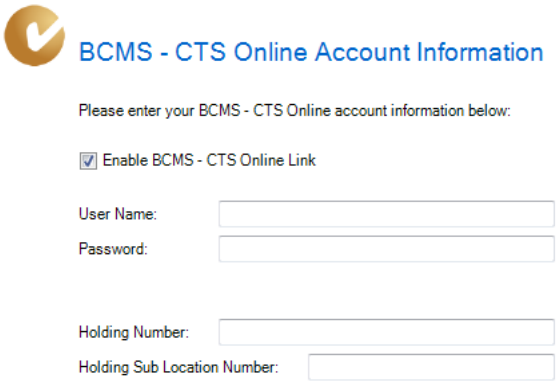
Please note that the download time is no longer governed by the 11am automatic housekeeping time



in the MicroMarque3S. Therefore, downloads can be carried out at any time apart from during milkings.

8.8 BCMS – CTS Online

ATL Cowculator includes the ability to transmit movement and death information to the British Cattle Movement Service (BCMS) using the Cattle Tracing System (CTS Online). The image below shows the settings page;



This page allows the user to input their user name and password which has been provided by BCMS and along with their holding number and sub-location. This information is used when sending movements, births and deaths to BCMS via the CTS Online web service, See chapter 28 for more information.

9 Creating New Animal Records

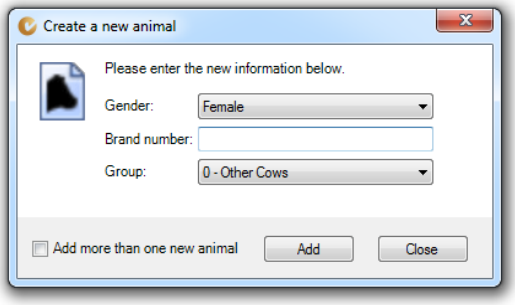
New animal records can be created by either manually entering, importing from Cowculator for DOS or Cowculator for Windows, or by downloading from the MicroMarque3S.

9.1 Manually Entering Animal Records

The Create a New Animal(s) dialog is used to create new animals in ATL Cowculator. The dialog can be accessed by clicking the 'Create a New Animal' button on the tool bar  or the 'Create a New Animal' item on the 'Edit' menu. See Chapter 4 for more information on the edit menu.

9.1.1 Creating new animal's without BCMS – CTS Online enabled

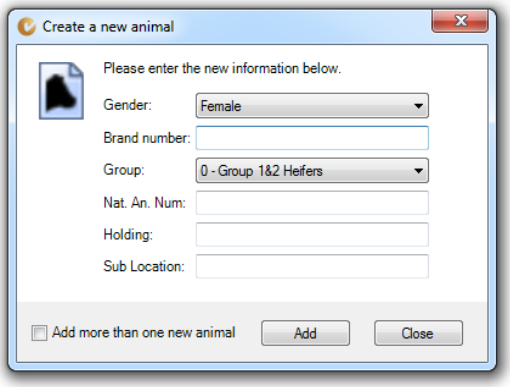
When the BCMS – CTS Online link is not enabled the dialog below is shown;



With this dialog the user can enter the bare minimum for creating a animal. When the Add button is pressed the program will create a new animal of the selected sex, with the brand number entered. If the "Add more than one new animal" checkbox is checked the dialog will allow the user to create multiple animals, otherwise; it will close and show the "Animal Information" screen for the new animal. See Chapter 20 for more information on entering additional information available on the animal record.

9.1.2 Creating new animal's with BCMS – CTS Online enabled

When the BCMS – CTS Online link is enabled the dialog below is shown, the program presumes that all new animals which are about to be created are being transferred on to the holding. If the program is being set-up and the herd is being entered for the first time, it is better to use the "Get cattle on holding" function of the BCMS – CTS Online link to download them. The dialog operated in exactly the same was as the above dialog, apart from requiring more information.

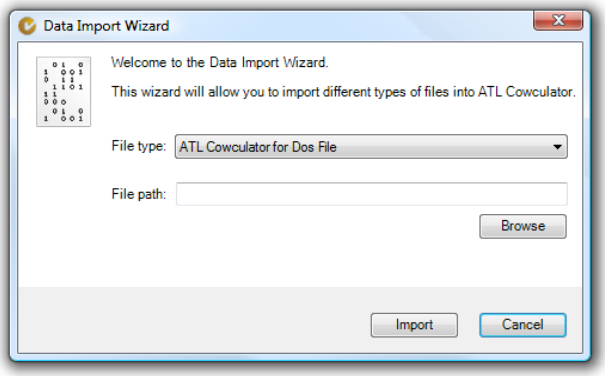


9.2 Importing from Cowculator for DOS or Cowculator for Windows

ATL Cowculator can import data from different programs. The currently supported file formats are:

- ATL Cowculator for DOS
- ATL Tag Data Disks
- NMR DataStream Disks

The import wizard is shown below;



To import data the user needs to select the file type, then locate the file with the browse button, and finally click the Import button to perform the import.

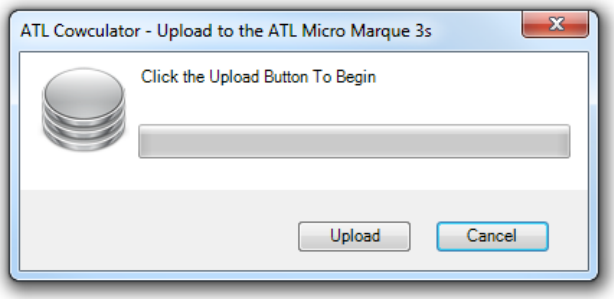
When importing data from the ATL Cowculator for DOS program, you can specify how the old program's flags are used by the new ATL Cowculator program, See Chapter 7 (check) for more information.

9.3 Uploading (sending) to and Downloading (getting) from ATL controls

When the program is connected to the MicroMarque3S or running in stand-alone mode when connected to the MicroMarque4. The user will need to use the 'Send to' and 'Get from' commands.

9.3.1 Uploading (Sending) to ATL Controls

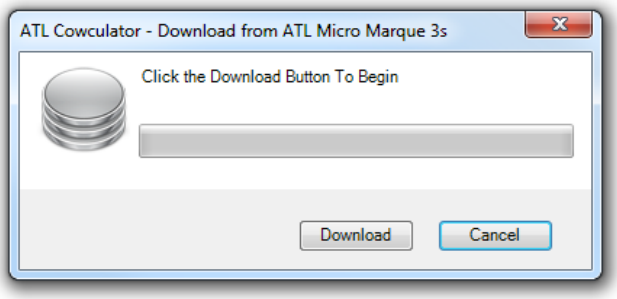
To 'Send to' the controls which are setup on the system, click the send button  or select the Send item from the 'File' menu. The communications dialog is shown below.



Click the 'Upload' button to send all data, or click 'Cancel' to close and abort the operation.

9.3.2 Downloading (Getting) from ATL Controls

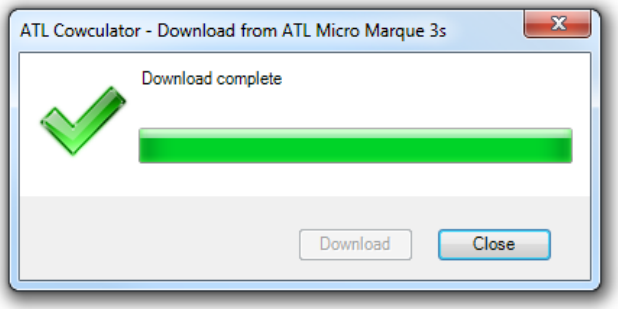
The 'Get from' function is much the same. Use the 'Get from' button on the tool bar  or the Get menu item on the 'File' menu to initiate the download. The Get communications dialog is shown below.



Click the 'Download' button to send all data, or click 'Cancel' to close and abort the operation.

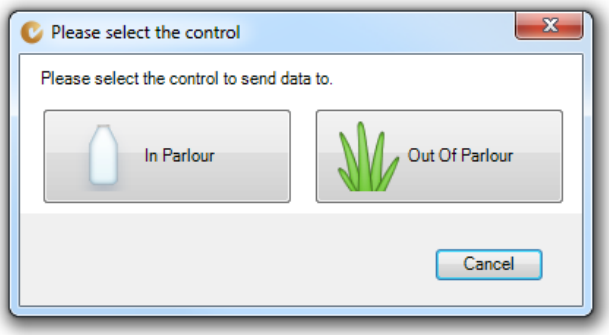
9.3.3 The Upload (Send) or Download (Get) Progress Bar

When a Get or Send is initiated the progress bar shows the overall progress of the task.



9.3.4 Uploading (Sending) and Downloading (Getting) from Multiple Controls

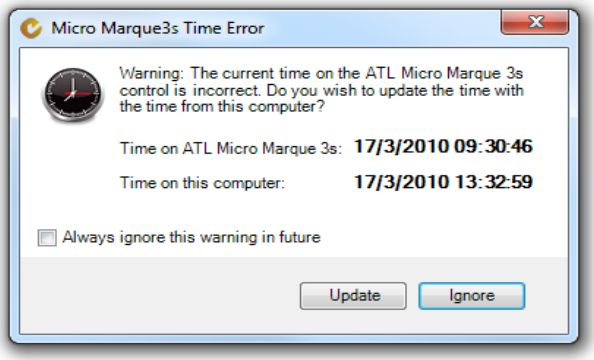
If the ATL Cowculator program is setup to be connected to an in parlour control as well as an out of parlour control, the program will ask the user to select which control to Get or Send data to, the dialog is shown below.



9.3.5 Updating the Time on the MicroMarque3S

If the time on the ATL MicroMarque3s control is incorrect, the program will warn the user with the Time Error dialog. This will allow the user to correct the time to make sure the house keeping is performed at the correct time. The dialog is shown below.

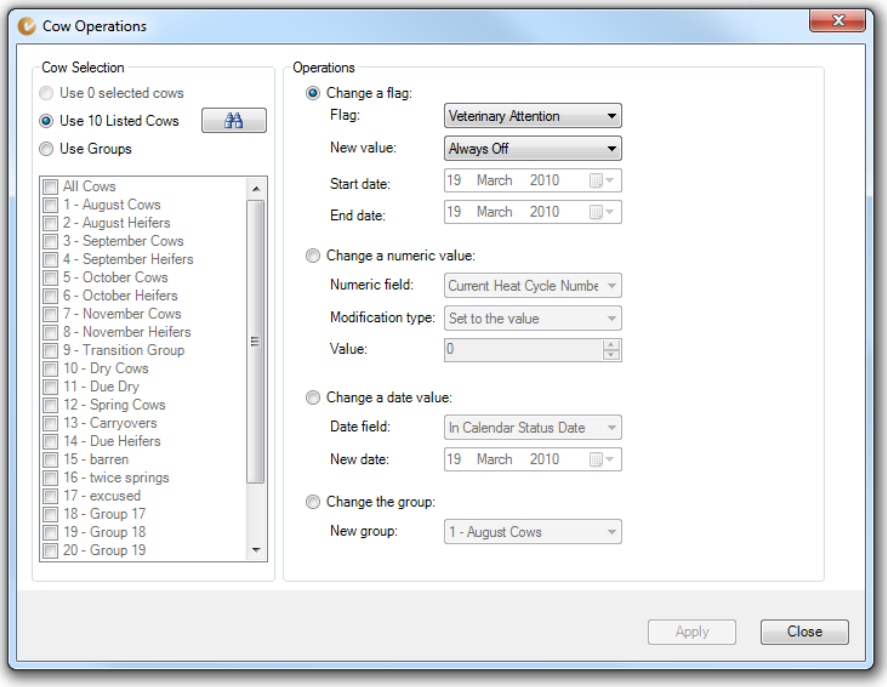
Please note: The time update function is only available in the MicroMarque3S software v4.32 or above.



10 Changing Multiple Animal Records using Animal Operations

The Animal Operations dialog ican be used to change information in multiple animals records in one go.

The user can either manually select animals in the list view, select an entire group for modification, or use the select button  to load the Search dialog and perform a search for the animals which are required. Below is a screen shot of the dialog;



10.1 Changing an Attention Flag

This routine allows the user to change the attention flags set against one or more animals. The attention flags can be turned off, turned on, changed to one shot or date bound. The following attention flags can be changed.

Artificial Insemination	Bulling	Foot Attention*	High Cell Count*
Hold Milk*	Mastitis Back Left*	Mastitis Back Right*	Mastitis
Mastitis Front Left*	Mastitis Front Right*	Slow Milker	Test Milk
Three Quarter Animal Back Left*	Three Quarter Animal Back Right*	Three Quarter Animal Front Left*	Three Quarter Animal Front Right*
Veterinary Attention	-	-	-

* Only available on MicroMarque4 system.

10.2 Changing a Numeric Value

This routine allows the user to change the numeric values associated with certain fields against one or more animals. The numeric values can be changed, an amount can be added to the value, an amount can be taken away from the value, a percentage can be added or a percentage can be taken away. The following numeric values can be changed.

Current Heat Cycle Number	Number of Pregnancies	Lactation Number	Out of Parlour Feed A Daily Ration
Out of Parlour Feed B Daily Ration	Out of Parlour Feed A Total Ration	Out of Parlour Feed B Total Ration	In Parlour Feed Daily Ration
In Parlour Feed Total Ration	Previous In Parlour Feed Daily Ration	Lactation Total	-

10.3 Changing a Date Value

This routine allows the user to change the dates associated with certain fields against one or more animals. The following dates can be changed.

Current Status Date	Current Heat Cycle Start Date	Previous Heat Cycle Start Date	Calving Date
Service Date	Drying Off Date	Dry Date	Steaming Up Date
Birth Date	-	-	-

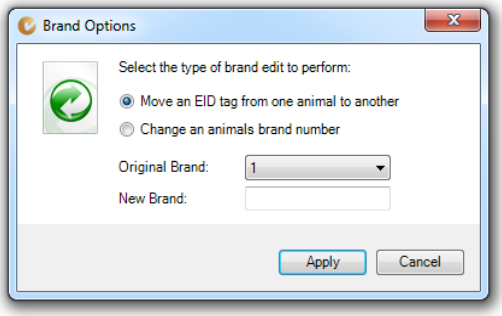
10.4 Changing the Group of Selected Animals

This routine allows the user to move animals from one group to another in one easy function. Animals of any of the 24 groups can be moved to another group.

11 The Brand Options Dialog

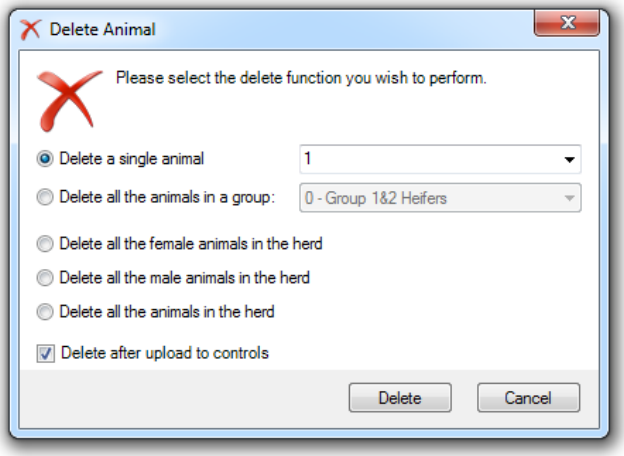
The Brand Options dialog allows the user to move an electronic identification number between two animals. The Brand Options dialog can be found by clicking on Edit on the Main Menu bar, and then Brand Options.

The Brand Options dialog can be used when a reusable electronic ear tag is removed from one animal and placed in a new animal, or when an animal's brand number has been wrongly entered into the system and information needs to be preserved. The dialog can be seen below;



12 Deleting Animal Records

There are two ways to delete animal records from ATL Cowculator. The Delete Animal(s) dialog, the red cross on the toolbar, can be used. Both methods give options to delete either single or multiple animals from the program.



12.1 Deleting Animals using the Delete Animal(s) Dialog

The Delete Animal(s) dialog can be found by clicking on Edit on the Main Menu bar, and then on Delete Animal(s).

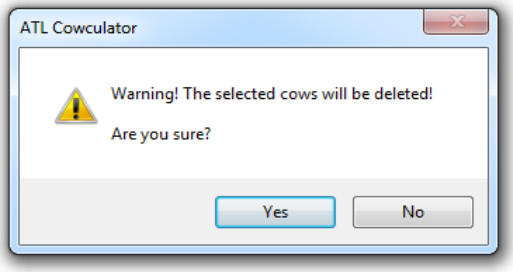
The dialog provides 3 options for deleting animals. These are:

- Delete a Single Animal - This lets the user choose an animal to be deleted.
- Delete all the Animals in a Group - This lets the user choose a group of animals to be deleted.
- Delete all the female animals in the Herd – This lets the user delete all the female animals in the herd.
- Delete all the male animals in the Herd – This lets the user delete all the male animals in the herd.
- Delete all the Animals in the Herd - This lets the user delete all the animals in the herd.

Please note than when ATL Cowculator 2021 is connected to the MicroMarque4 the “Delete after upload to controls” check-box is not be visible. The check-box allows the user to mark the animals for deletion in the MicroMarque3S when communications is initiated. When the check box is unchecked the program will delete the animals only from ATL Cowculator.

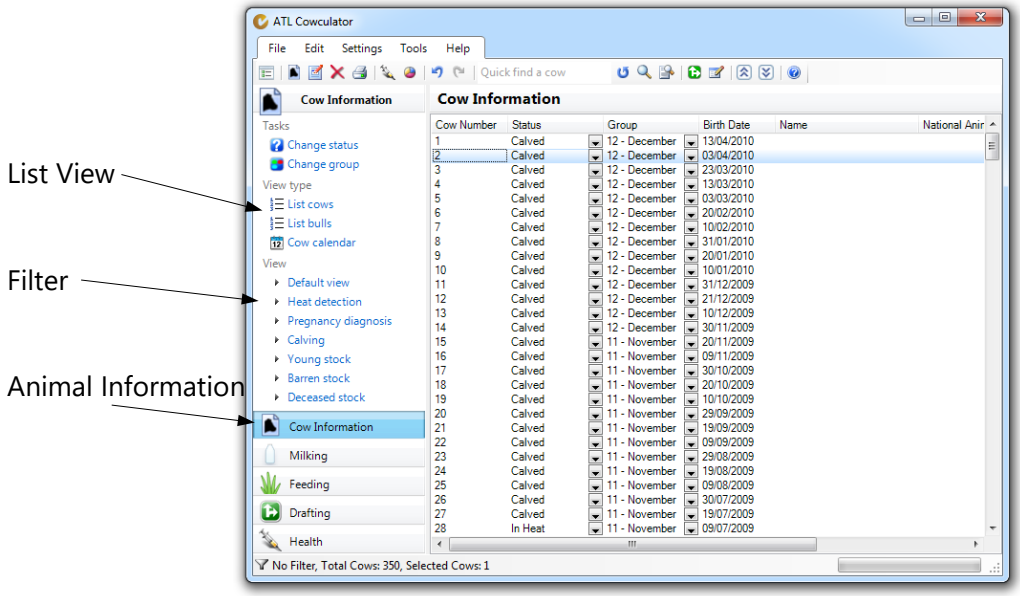
12.2 Delete Animals using the Red Cross on the Toolbar

The Delete Animal button on the toolbar deletes the currently highlighted animal or animals. When the Delete Animal button is pressed the following dialog box appears. Click Yes to delete the selected animal(s) or No to return to the previous screen.



13 The Animal Information Screen

The animal information screen shows a list of all animal records stored in ATL Cowculator. The default screen shows the animal number, status, group, birth date, national animal number and electronic identification number. The list can be filtered to show only heat detection, pregnancy diagnosis, calving, young stock, barren stock or deceased stock. This can be done by clicking on the relevant link on the 'view' list on the left-hand side of the screen.



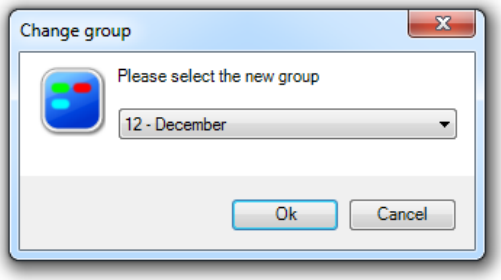
If the user highlights and right-clicks on the animal's row, a box will appear, allowing the user to change the following:

- Edit Status Information - Changes the animal's status (i.e. calved, in heat etc).
- Edit Feeding Information - Opens the Feed Tab for highlighted animal.
- Show Milk Yield Information - Opens the Milk Yield Tab for highlighted animal.
- Edit Drafting Information - Opens the Drafting Tab for highlighted animal.
- Family Tree – Open the Family Tree tab for the highlighted animal.
- Copy Selected Rows - Copies highlighted rows to clipboard for pasting into spreadsheet.
- Copy All Rows - Copies all rows to clipboard for pasting into spreadsheet.
- Select All Rows – Selects all rows in the current view.

Please note: If the animal selected is Male, then the “Edit Feeding Information” and “Show Milk Yield Information” menu items are not present, as they are not used for male animals.

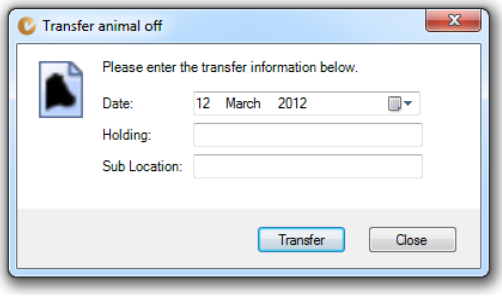
13.1 Changing the Animal's Group

One or more animals can have their group changed using the Change group button on the navigation bar.



13.2 Transferring an animal off the holding

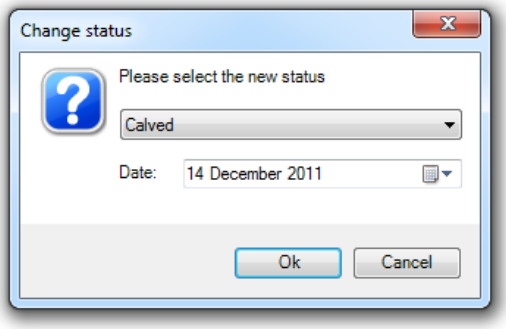
If the BCMS – CTS Online link is enabled, the “Transfer Off” menu item will be visible in the list of tasks, when the user clicks it, it allows the animal to be transferred from this holding to another using the BCMS – CTS Online link. The dialog is shown below;



Once the animal is 'transferred off' the animals information is added to the list of transactions required for transmission to BCMS – CTS Online.

13.3 Changing the Animal's Status

One or more animals can have their status updated (i.e. calved, barren etc) using the Change Status button on the Navigation bar.

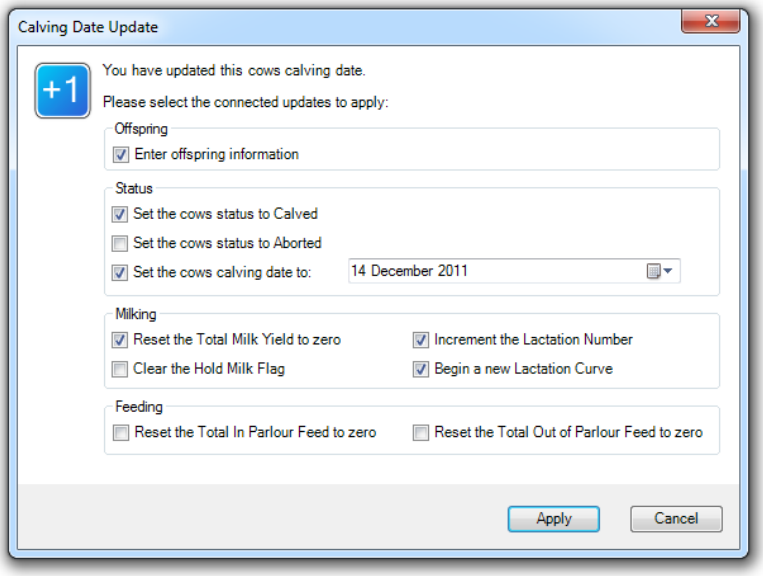


There are 11 status's available. These are:

Young Stock	Barren	In Heat	Served
Pregnant	Aborted	Calved	Drying Off
Dry	Unknown	Deceased	-

13.3.1 Changing the Animals Status to Calved or Aborted

If the status is set to calved or aborted, the Calving Date Update screen will appear, and allow the user to decide which totals to reset, whether to begin a new lactation curve or set the calving date.



Offspring

- Enter Offspring Information – When ticked allows you to enter information on the offspring. See overleaf for more information.

Status

- Set the Animals Status to Calved - When ticked changes the animals status to calved.
- Set the Animals Status to Aborted – When ticked changes the animals status to aborted.
- Set the Animals Calving Date to - Select the date the animal calved.

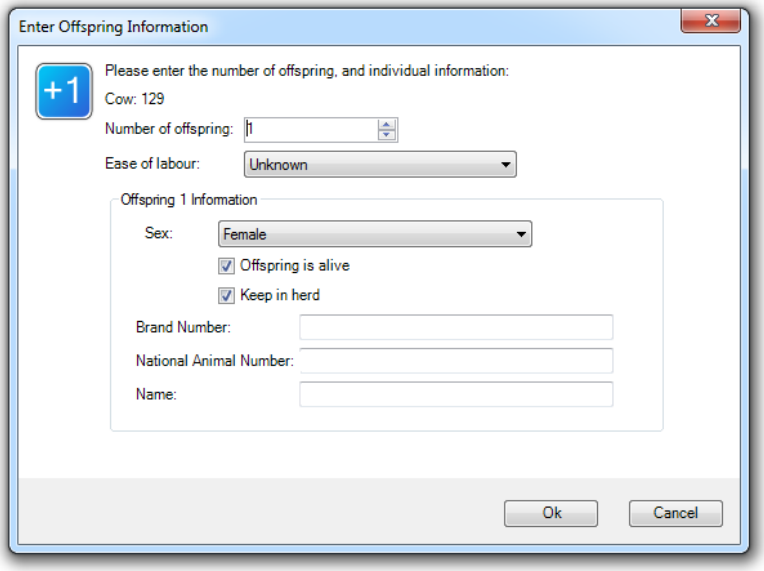
Milking

- Reset the Total Milk Yield to Zero - When ticked resets the total milk yield to zero for the new lactation.
- Clear Milk Hold Flag - When ticked clears the hold milk flag.
- Increment the Lactation Number - When ticked increments the lactation number by 1.
- Begin a New Lactation Curve - When ticked starts a new lactation curve.

Feeding

- Reset the Total In Parlour Feed to Zero - When ticked resets the in parlour feed total to zero for the new lactation.
- Reset the Total Out of Parlour Feed to Zero - When ticked resets the out of parlour feed total to zero for the new lactation.

13.3.2 Entering Offspring Information



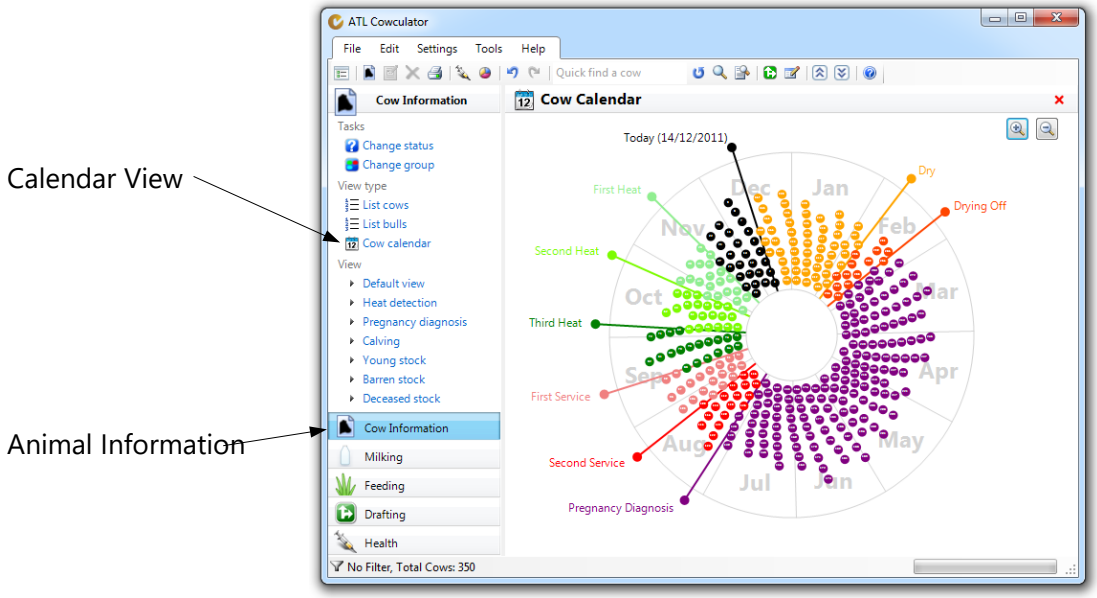
- Number of Offspring – Select the number of offspring born. Use arrows to increase or decrease the number of offspring.
- Ease of Labour – Use the drop down menu to select the ease of labour.

Offspring Information

- Sex – Select the sex of the offspring.
- Offspring is Alive – When ticked states that the offspring is alive.
- Keep in Herd – When ticked animal is added to the herd.
- Brand Number – Enter the brand number of the newborn animal.
- National Animal Number – Enter the national animal number of the newborn animal.
- Name – Enter the name of the newborn animal.

14 The Cow Calendar

The breeding calendar shows at a glance the current state of management of the herd. The calendar is circular with animals displayed as colour coded circles, showing which are due to calve, due for service, pregnancy diagnosis and drying off. This highlights animal's with irregular heat cycles and also gives an overview of the calving pattern throughout the year.



14.1 How the Cow Calendar Works

The breeding calendar is split into 12 segments, each representing a month of the year. These segments are further split into days in the month. Over the 12 months, the calendar is split into 9 sections, each representing different periods of the animals calving cycle. The sections are as follows:

- Black pointer - Today's date
- Green pointer - First, second and third heats
- Pink pointer - First service
- Red pointer - Pregnancy diagnosis
- Orange pointer - Drying off
- Yellow pointer - Dry
- Blue pointer - Steaming up (if steaming up disabled, blue pointer will not be displayed)

The calendar rotates in a clockwise direction. When a particular pointer reaches a particular animal, the action represented by the colour of the pointer is taken on that animal.

The following is an example of how the system works:

18th September - A animal is freshly calved. The animals status is changed to Calved and the colour of the circle will change to black.

7th October - Look for first heat, usually 21 days after calving. When you sees signs of the first heat, change the animals status to In Heat and the colour of the circle will change to green.

28th October - Look for signs of the second heat.

18th November - Look for signs of the third heat.

10th December - If the animal is served, the status should be changed to Served and the colour of the circle will change to pink. The status will automatically change to red if the animal's status is changed to served for a second time.

5th February - Pregnancy diagnosis. If confirmed, the status should be changed to Pregnant and the colour of the circle will change to purple.

26th July - Drying off period starts. The status should be changed to Drying Off and the colour of the circle will change to orange.

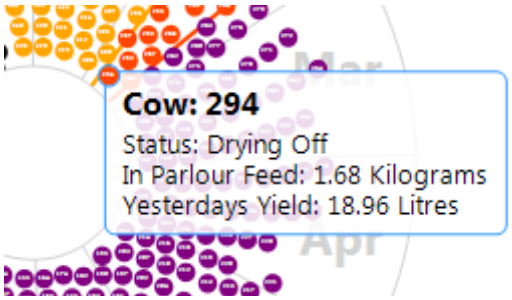
8th August - Dry period starts. The status should be changed to Dry and the colour of the circle will change to yellow.

8th September - Steaming up. The status should be changed to Steaming Up and the colour of the circle will change to blue.

8th October - Calf due today. If calved, the status should be changed to Calved, the colour changed to black and the process started over again.

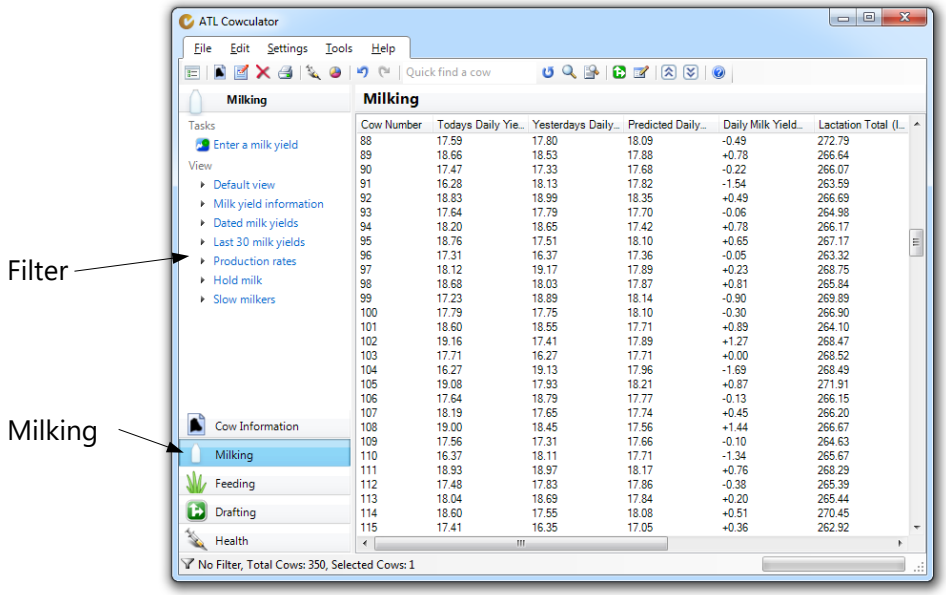
14.2 Displaying Individual Animal Information

The user can single left-click on a animal's circle and information on that particular animal will be displayed as shown below. If the user double left-clicks, the animal record will open.



15 The Milking Screen

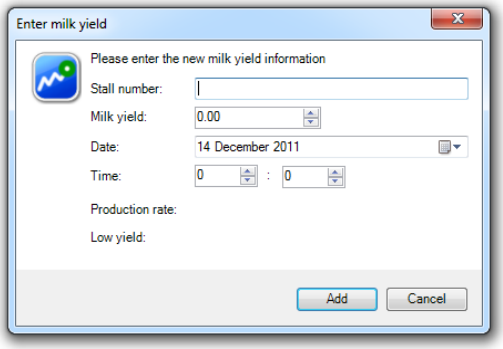
The milking screen shows a list of the animals and their milk yield for the current day. The screen also shows the predicted daily yield, deviation, lactation total and days in milk. The list can be filtered to show current milk yield, last 30 milk yields, dated milk yields, production rates (calculated millilitres of milk produced per minute between milkings), hold milk and slow milker animals.



It should be noted that milk yields will only automatically be available for each milking if the MicroMarque3S control is connected to either ATL Micro Milk Meters or our competitors milk meters via a Milk Meter Interface and the data from the MicroMarque3S is downloaded each day. The MicroMarque3S only stores 4 milking yields and therefore it is recommended downloading is set up as a scheduled task each day to avoid losing yields.

15.1 Manually entering Milk Yields

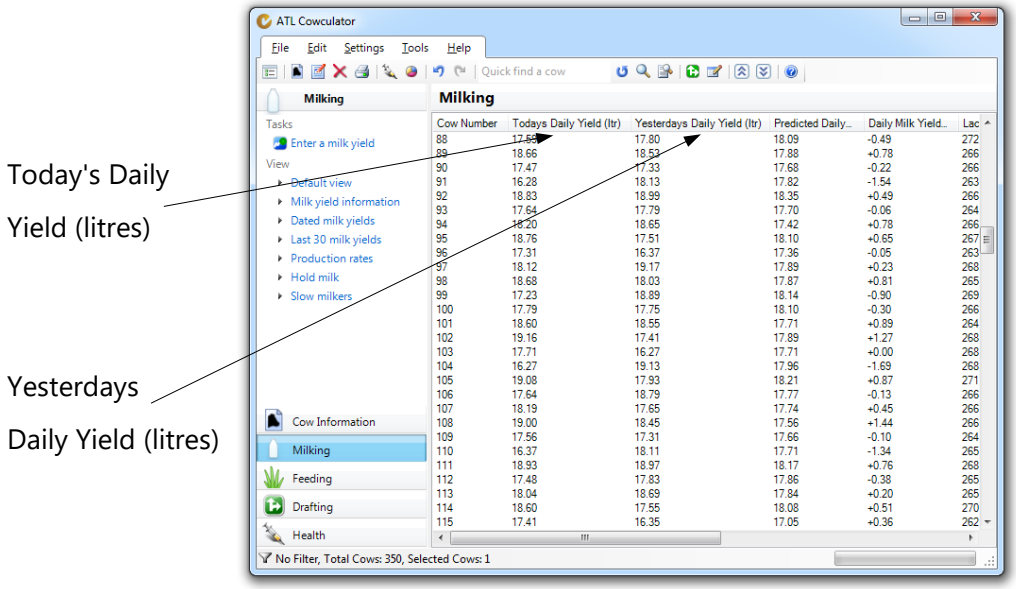
Milk yields can be manually entered using the Enter a Milk Yield button in the Navigation menu. If a milk yield is entered manually, the following window will be displayed.



The stall number, milk yield, date and time can be entered. The program will then calculate the production rate and whether the milk yield deviation has been met.

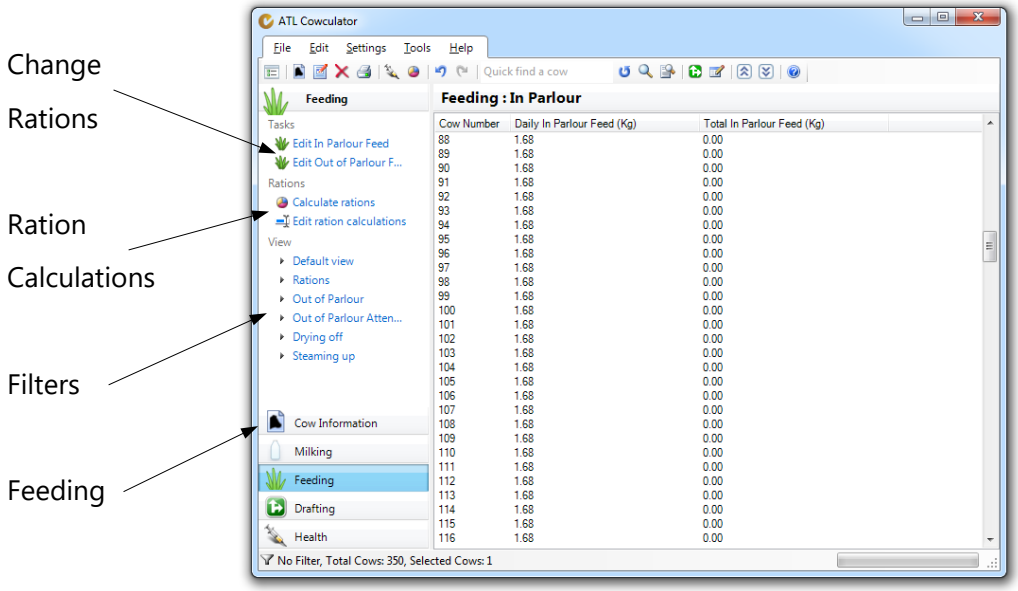
15.2 Todays and Yesterdays Daily Yield Totals

On the main milking screen, the milk yields shown in the Todays Daily Yield and Yesterdays Daily Yield are dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information.



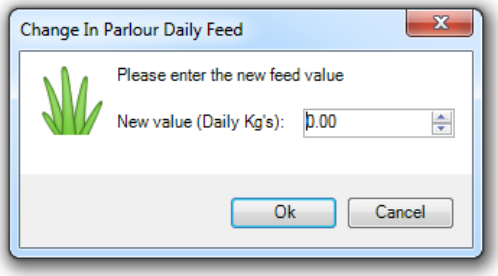
16 The Feeding Screen

The feeding screen shows a list of animals and their daily in parlour feed and total parlour feed in kilograms. The view can be changed to show rations with milk yields, out of parlour rations with uneaten feed (including 3 day average uneaten feed and the number of visits), out of parlour attentions, and drying off and steaming up dates.



The user can change both in parlour and out of parlour feed rations either manually or calculate them using either a feed table, feed to yield or days in milk.

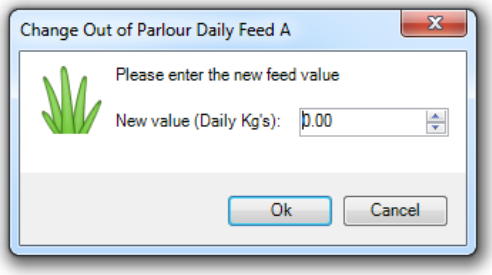
16.1 Manually changing In Parlour Daily Feed Rations



The user can manually change the daily ration using the Edit In parlour Feed button on the navigation menu. The dialog box shown above is displayed. This shows the daily feed ration in kilograms, and is divided between the number of milkings per day. Therefore, if a daily ration of 3kg is chosen for a animal, on twice a day milking, the animal would get 1.5kg per milking, and on three times a day milking, the animal would get 1.0kg per milking.

IMPORTANT - For the ration change to take effect, a upload to the Micro Marque 3S will have to be carried out. On Micro Marque 4 systems, the data is live and therefore no upload is required for the changes to take effect.

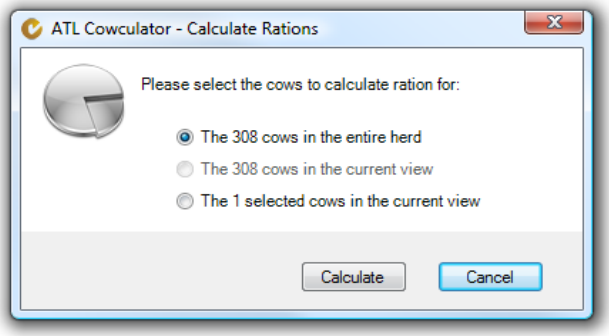
16.2 Manually changing Out of Parlour Daily Feed Rations



The user can manually change the daily ration using the Edit Out of parlour Feed button on the navigation menu. The dialog box shown above is displayed.

IMPORTANT - For the ration change to take effect, a upload to the Out of Parlour Control will have to be carried out.

16.3 Using Ration Calculations to automatically change Daily Feed Rations



Daily feed rations can be automatically calculated using the Calculate Rations button on the navigation menu. The dialog box allows the user to perform ration calculations for all animals, for animals currently in the list view, or only for currently highlighted animals.

It should be noted that the ration calculations need to be set up prior to clicking upon this button. Please see Chapter 21 for more information.

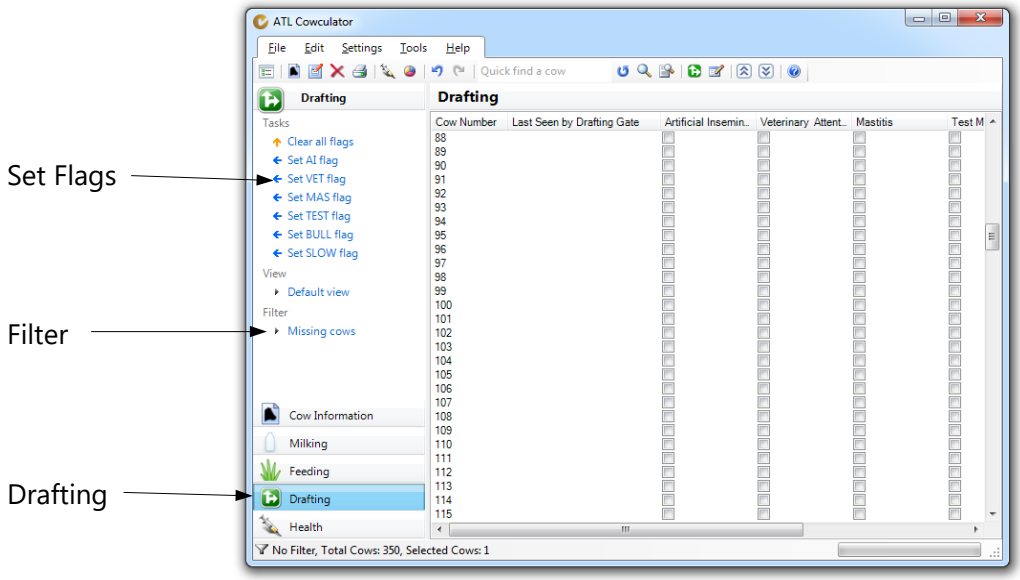
It should also be noted that this process can be automated using Scheduled Tasks in the Settings menu. Please see Chapter 7 for more information.

17 The Drafting Screen

The drafting screen shows a list of animals and the attention / warning flags that are set against them which can be used for drafting. There are two views depending on which parlour control is connected to ATL Cowculator.

17.1 The MicroMarque3S Drafting View

The view for the ATL Micro Marque 3s is shown below.



The tick boxes can be quickly ticked to draft an animal through either one or two drafting gate systems using any one of the 7 attention flags used for drafting by the MicroMarque3S.

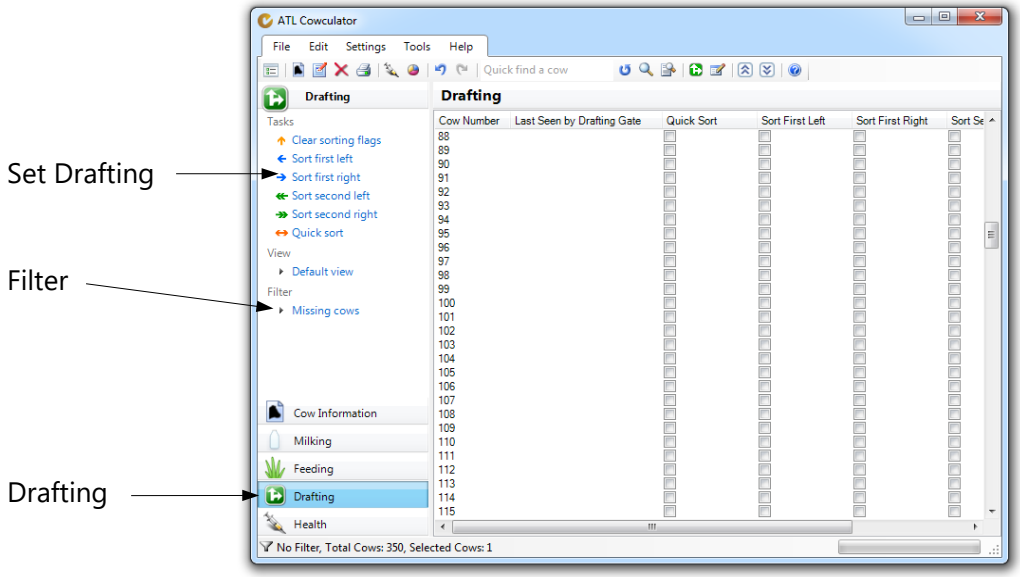
Highlight one or more animals in the list view and click on any of the links in the navigation bar on the left-hand side of the screen to set attention flags at the click of a button. Attentions can be set for artificial insemination, veterinary attention, mastitis, test, bulling or slow milkers using this method.

The last seen by drafting gate shows the time stamp when the animals electronic tag was last read by the drafting gate system.

The missing animals filter in the navigation menu displays animals which have not been seen by the drafting gate system for more than 24 hours.

17.2 The MicroMarque4 Drafting View

The view for the ATL Micro Marque 4 is shown below.



The tick boxes can be quickly ticked to draft an animal through either one or two drafting gate systems using any one of the 4 dedicated sorting/drafting flags used for drafting by the MicroMarque4.

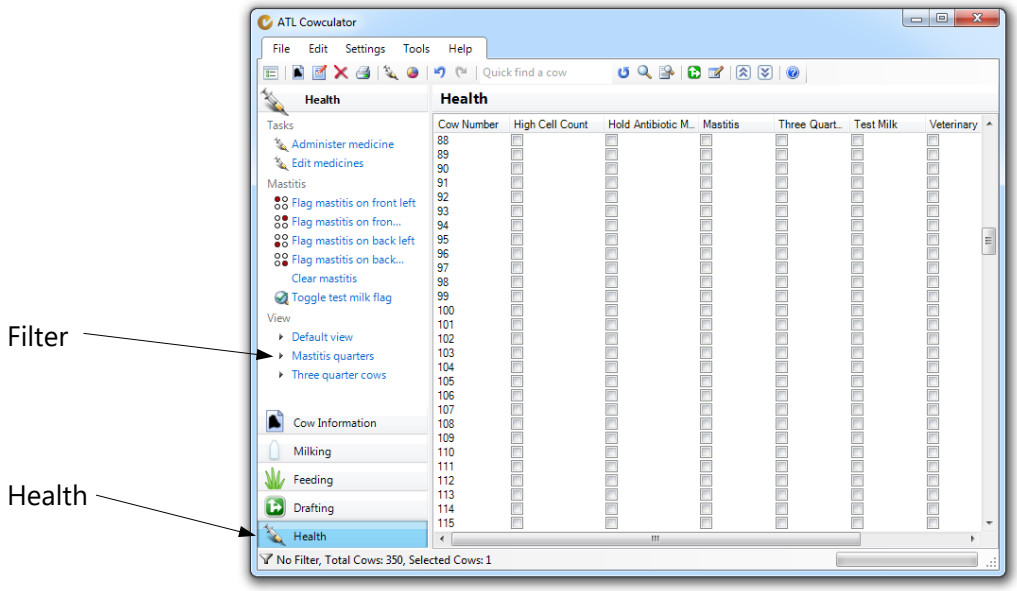
Highlight one or more animals in the list view and click on any of the links in the navigation bar on the left-hand side of the screen to set attention flags at the click of a button. Attentions can be set for sort first left, sort first right, sort second left and sort second right using this method.

The last seen by drafting gate shows the time stamp when the animals electronic tag was last read by the drafting gate system.

The missing animals filter in the navigation menu displays animals which have not been seen by the drafting gate system for more than 24 hours.

18 The Health Screen

The health screen shows a list of animals and the health attentions that are set against them. The default view includes the health attentions high cell count, hold antibiotic milk, mastitis, three quarter animal, test milk, veterinary attention and foot attention. Other views are available highlighting mastitis quarter and three quarter animals only.



Buttons are available in the navigation bar to quickly set mastitis attentions on either the front left, front right, back left and back right quarters for highlighted animals. The clear mastitis button can be used to remove all mastitis attentions set and the toggle test milk flag turns the test milk flag on and off against highlighted animals.

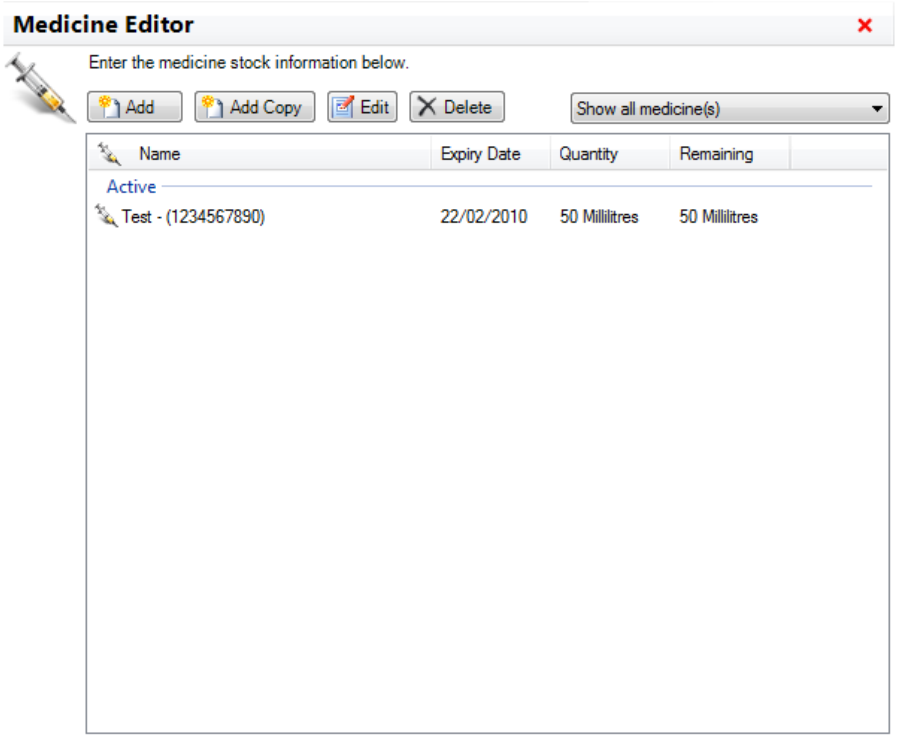
18.1 Adding and Removing Medicines

The user can record medicine use against individual animals from within the health screen. Before this can happen, medicines must be added to the medicine editor. The medicine editor has three views - show all medicines, show only those medicines in date and show only those medicines deleted.

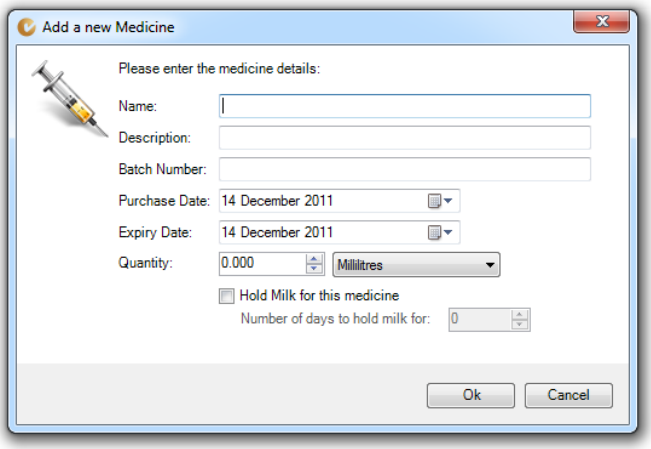
Click on the Add button to add a new batch of medicine to the medicines editor. The following information is required when adding a new medicine to the Medicines Editor:

- Medicine name and description
- Batch number
- Purchase date
- Expiry date
- Quantity
- Hold milk option and how long to hold milk

The Medicine Editor is shown below:

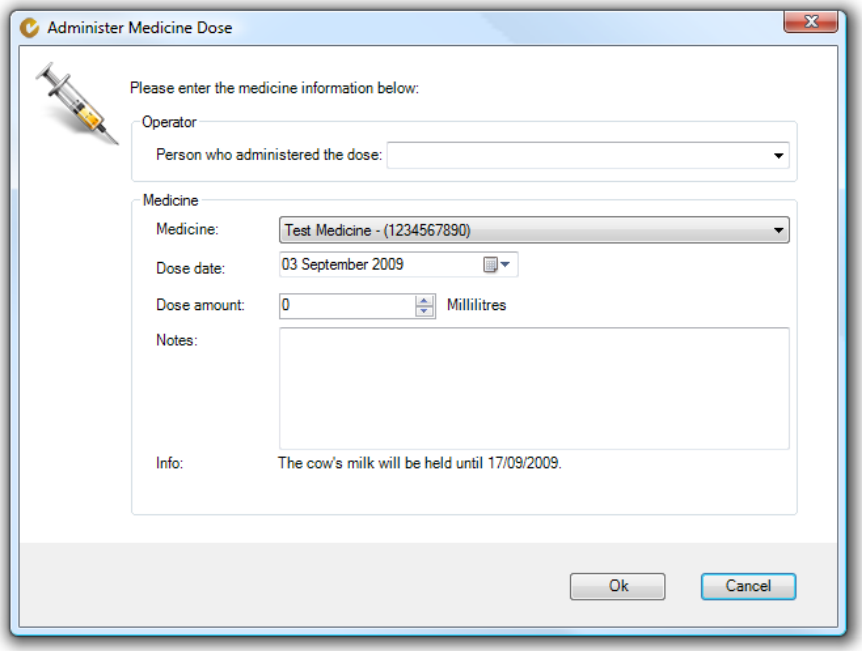


The add a new medicine dialog box is shown below:



18.2 Administering a Medicine Dose

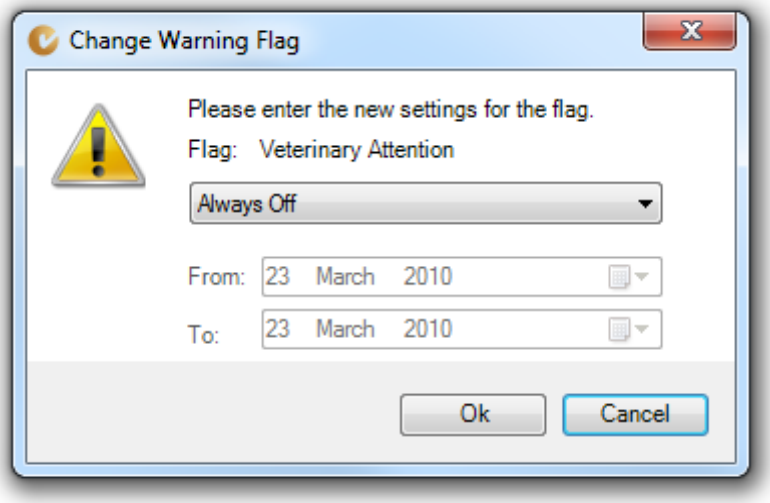
The user can click the Administer Medicine Dose button  to apply a dose of medicine to an animal. The dialog is shown below;



The dialog requires the user to input the name of the person who administered the dose, the medicine, the date and the amount given. The user can also add a note to the treatment and the Info field will display any extra information in relation to the dose.

19 Editing Attention / Warning Flags

From any of the list views where attention / warning flags are displayed, the user can double click on an attention / warning flag. The Change Warning Flag dialog will be displayed. The dialog is shown below.



The user can edit the following attention / warning flags to be Always On, Always Off, One Shot or Date Bound.

Artificial Insemination	Veterinary Attention	Test Milk	Hold Milk	High Cell Count
Bulling Flag	Foot Attention	Sort First left	Sort First Right	Sort Second Left
Sort Second Right	Mastitis Front Left	Mastitis Front Right	Mastitis Back Left	Mastitis Back Right
Three Quarter Animal Front Left	Three Quarter Animal Front Right	Three Quarter Animal Back Left	Three Quarter Animal Back Right	

The following attention / warning flags can be edited to be Always On and Always Off.

Mastits	Slow Milker Flag	Quick Sort

NB - Edited attentions / warning flags can only be displayed in the milking parlour on PC based control systems.

20 The Animal Record

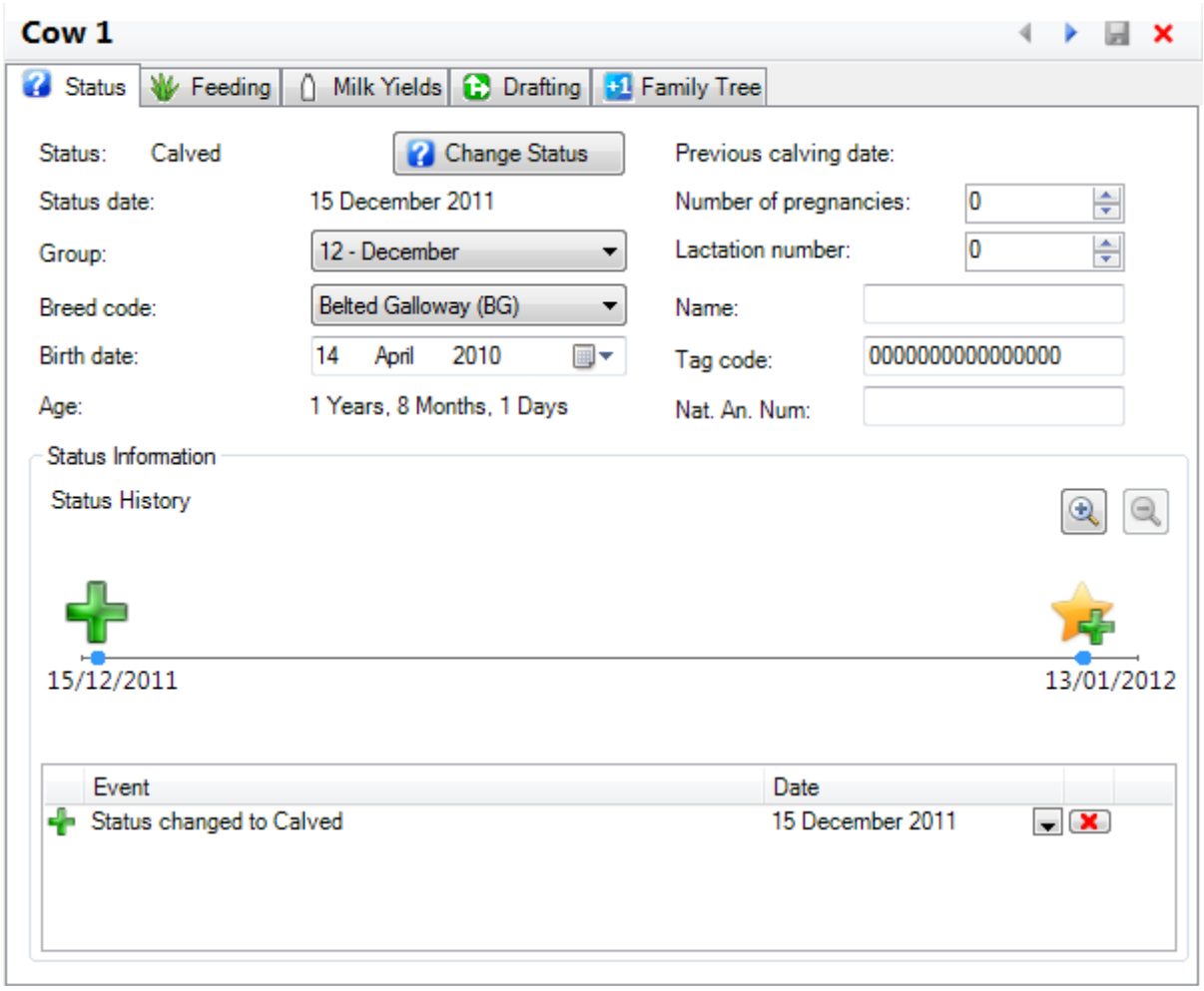
The Animal Record stores information on an individual female animal such as position in the lactation cycle, group, date of birth, lactation number, in parlour and out of parlour rations, milk yields and drafting information. To get to an animal's record, double click on an animal's brand number in the list view. The tabs available in the animal editor are: Status, Feeding, Milk Yields and Drafting.

20.1 The Status Tab

The status tab has different versions for male and female animals.

20.1.1 The Status Tab for Female Animals

The Status Tab for female animals is shown below.



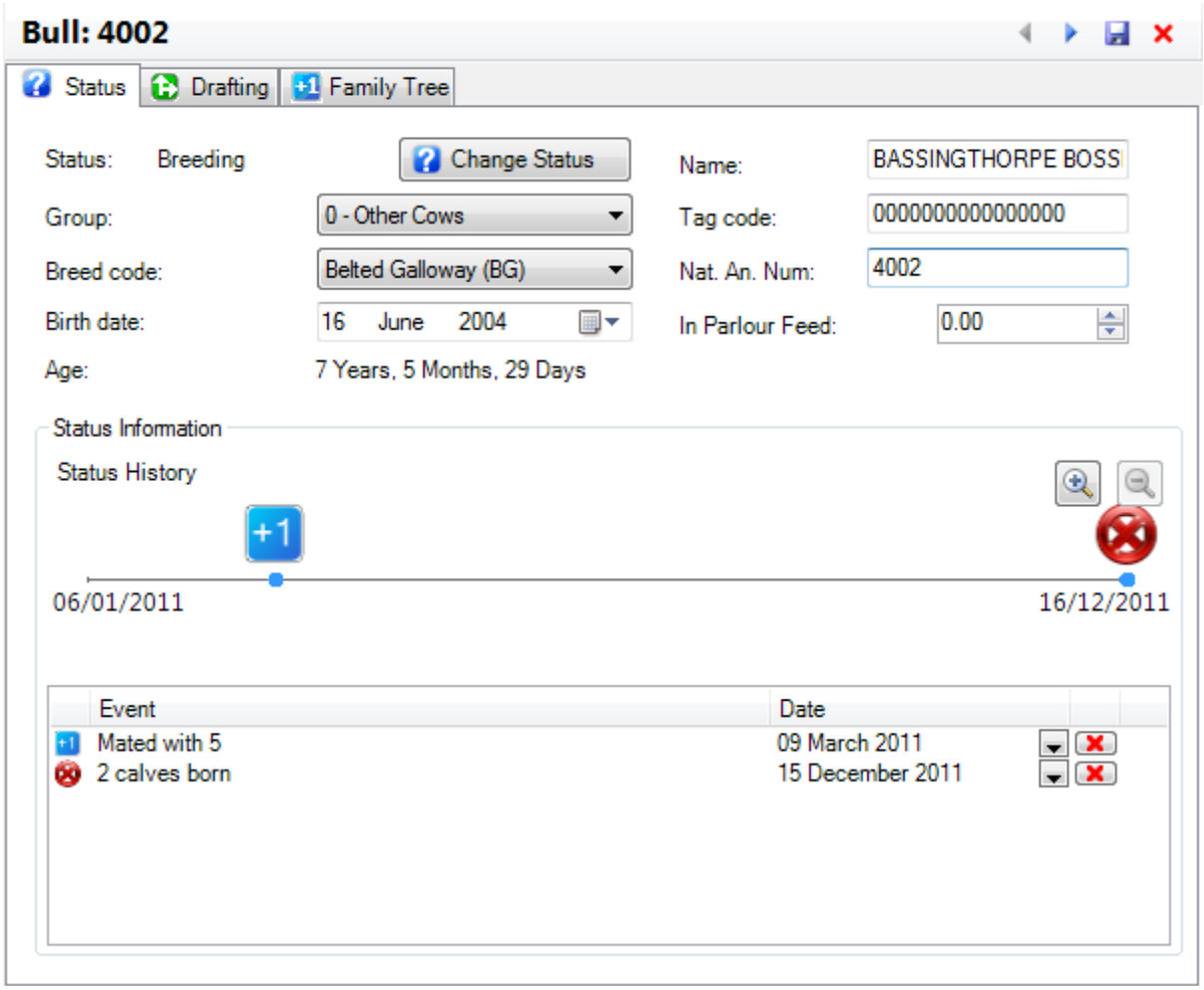
This view allows the user to view and edit information related to the animal's status. This tab also shows a history of the animal's status events. These can be clicked on to view the event information. Information available on this tab is as follows:

- Status - The position of the animal in the lactation cycle or status of the animal - young stock, barren, in heat, served, pregnant, aborted, calved, drying off, dry, steaming up, unknown, deceased.

- Status Date - The date the status was last changed.
- Group - The group of the animal.
- Breed code – The breed code of the animal.
- Previous Calving Date - The date of the previous calving.
- Date of Birth - The date the animal was born.
- Age - The age of the animal (years, months, days).
- Days in Milk - The number of days the animal has been in milk during this lactation.
- Number of Pregnancies - The number of pregnancies the animal has had.
- Lactation Number - The number of lactations the animal has had.
- Name - The animal's name.
- Tag Code - The electronic ear tag (EID) code associated with the animal.
- Nat. An. Num. - The national animal number associated with the animal.

20.1.2 The Status Tab for Male Animals

The Status Tab for female animals is shown below.



This view allows the user to view and edit information related to the animal's status. This tab also shows a history of the animal's status events. These can be clicked on to view the event information. Information available on this tab is as follows:

- Status - The position of the animal in the lactation cycle or status of the animal - young stock, sterile, breeding, deceased, unknown.
- Group - The group of the animal.
- Breed code – The breed code of the animal.
- Date of Birth - The date the animal was born.
- Age - The age of the animal (years, months, days).
- Name - The animal's name.
- Tag Code - The electronic ear tag (EID) code associated with the animal.
- Nat. An. Num. - The national animal number associated with the animal.

- In Parlour Feed – The In Parlour Feed to be given to the animal, if required.

20.1.3 The Status Information Box

The Status Information box is a visual display of historical and predicted events shown on a time line from the animal's birth. Below the time line, a list of the events is displayed in order of occurrence.

Historical events are represented by the following graphics:

Status Indicator	Graphical Representation
Status Changed	
Foot Treatment	
Medicine Treatment	
Mastitis Event	
High Cell Count Event	
Status Changed to Barren	
Status Changed to Deceased	
Three Quarter Animal	
Abortion Event	
Birth Event	

Predicted events are represented by the following graphics:

Predicted Status Indicator	Graphical Representation
First Heat Due	
Next Heat Due	
Pregnancy Diagnosis Due	
Drying Off Due	
Dry Due	
Steaming Up Due	

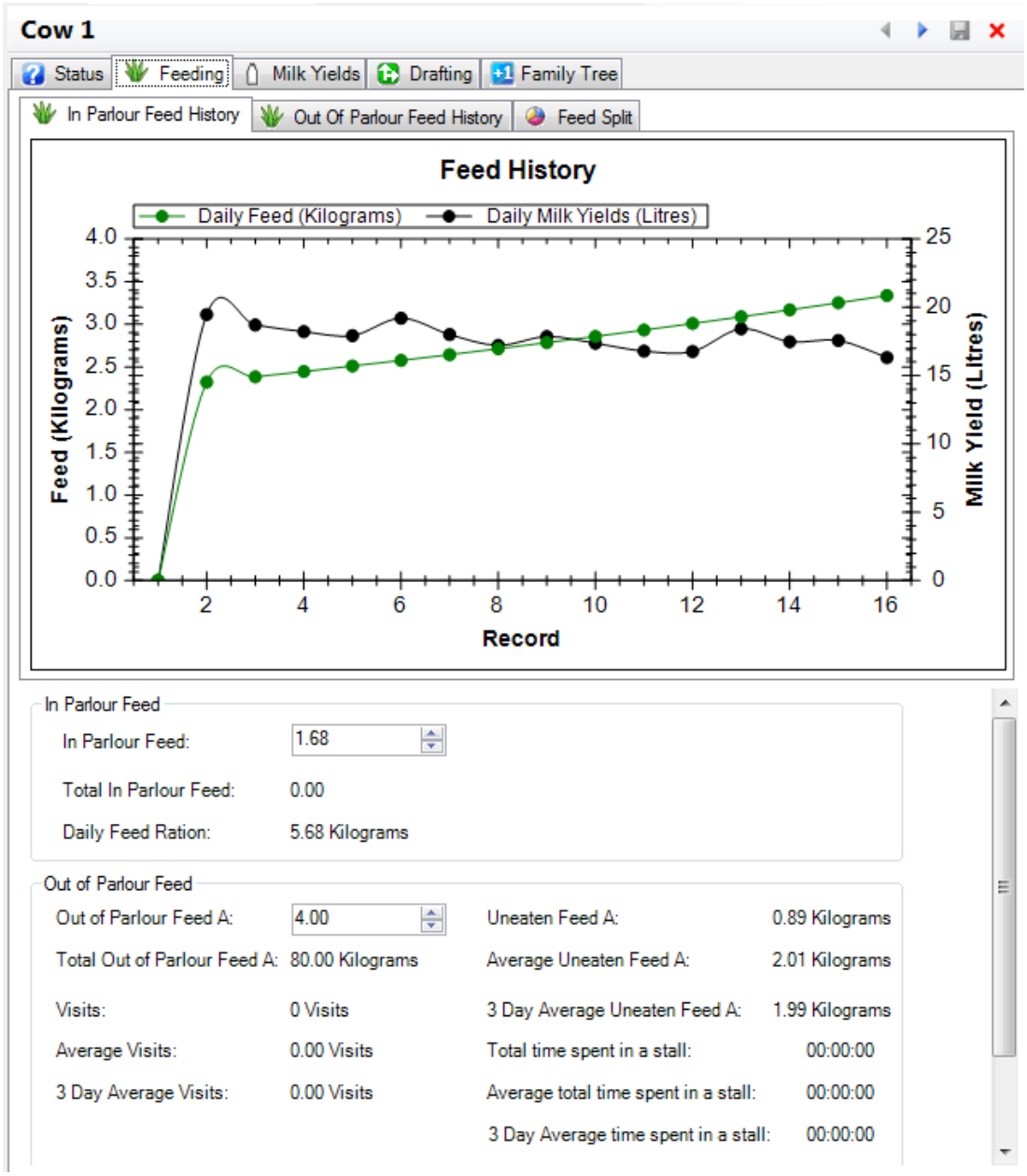
Predicted Status Indicator	Graphical Representation
Next Calving Due	

20.2 The Feeding Tab

The Feeding tab shows information related to the individual rations provided by the in parlour and out of parlour feeding systems. The Feeding Tab is split into three sub-tabs - In Parlour Feed History, Out of Parlour Feed History and Feed Split.

20.2.1 The In Parlour Feed History Tab

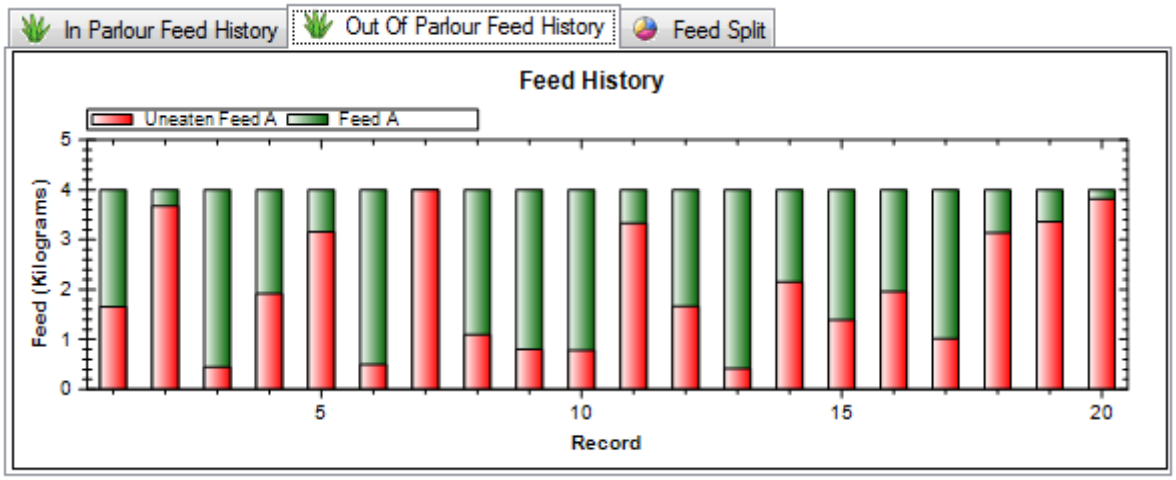
The In Parlour Feed History tab is shown below.



This tab monitors the individual animal's milk production against the amount of feed eaten in the milking parlour. Please note that this does not include out of parlour feed. The milk yield totals are true daily totals and are NOT dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings.

20.2.2 The Out of Parlour Feed History Tab

The Out of Parlour Feed History tab allows the user to view feed intake by the animal from the out of parlour feeding system. The tab page is shown below.

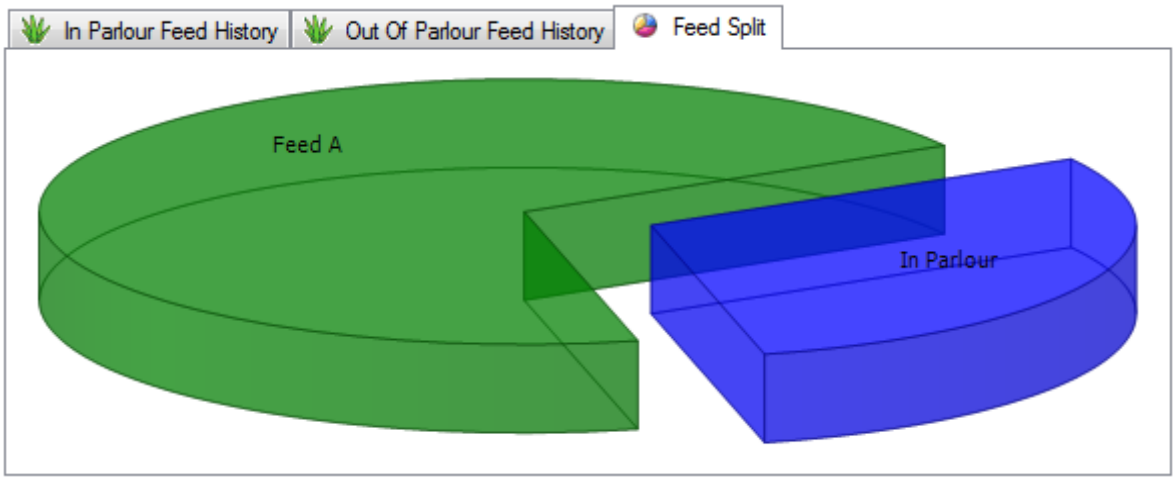


The Feeding tab page also includes information on the visit and feeding averages for the animal. This allows the user to quickly spot an animal which is not feeding correctly and may have health problems.

Mouse over the bar chart to see the date and either the total out of parlour ration or the amount of eaten and uneaten feed in kilograms.

20.2.3 The Feed Split Tab

The Feed Split tab shows the user a pie chart of the animal's total daily feed ration and the split between in parlour and out of parlour feeding systems.



Mouse over each part of the pie chart to see the amount of feed in kilograms and the percentage of the daily feed ration.

In the above pie chart, Feed A, in green, represents out of parlour feed, and equates to 4.00kg or 70.43% of the daily feed ration, and In Parlour, in blue, equates to 1.68kg or 29.57% of the daily feed ration.

20.2.4 The In Parlour and Out of Parlour Feed Boxes

On all three of the sub-tabs there are two boxes displaying information on in parlour and out of parlour feeding.

The In Parlour Feed Box displays the following information:

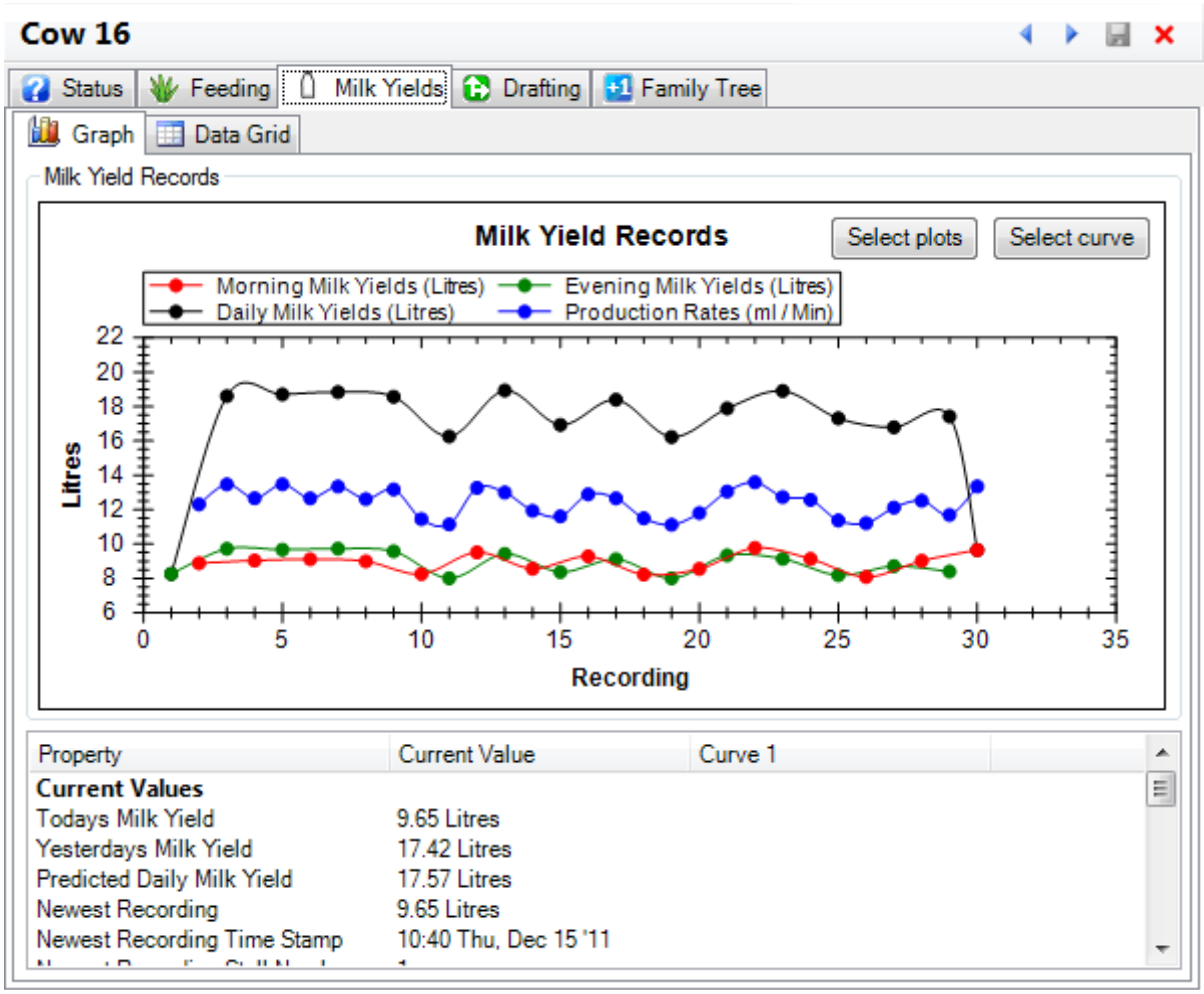
- In Parlour Feed - The current daily in parlour feed ration in kilograms (kg). This can be user set here, automatically updated using ration calculations or changed for one or more animals using the Animal Operations dialog. See Chapter 9.
- Total Feed Ration - The total in parlour feed provided to the animal. This can be reset to zero when the status is changed to calved - therefore, if reset to zero for each new lactation, will represent feed for lactation, otherwise will represent feed for animal's lifetime.
- Daily Feed Ration - The total in parlour and out of parlour feed ration in kilograms (kg).

The Out of Parlour Feed Box displays the following information:

- Feed A - The current daily out of parlour feed A ration in kilograms (kg). This can be user set here, automatically updated using ration calculations or changed for one or more animals using the Animal Operations dialog. See Chapter 9.
- Total Out of Parlour Feed A - The total out of parlour feed provided to the animal over it's lifetime.
- Visits - The number of visits the animal has made to the out of parlour feeding system during the last complete 24 hour cycle (for last download).
- Average Visits - The average number of visits the animal has made to the out of parlour feeding system per complete 24 hour cycle in it's lifetime.
- 3 Day Average Visits - The average number of visits the animal has made to the out of parlour feeding system per complete 24 hour cycle in the last 3 days. The number of days the average is taken over can be changed in the Cowculator settings. See Chapter 7.
- Uneaten Feed A - The current amount of uneaten Feed A that the animal has left during the previous complete 24 hour cycle.
- Average Uneaten Feed A - The average amount of uneaten Feed A that the animal has left over it's lifetime.
- 3 Day Average Uneaten Feed A - The average amount of uneaten Feed A that the animal has left over the previous 3 complete 24 hour cycles. The number of days the average is taken over can be changed in the Cowculator settings. See Chapter 7.
- Total Time Spent in a Stall – The total time that the animal was standing in a stall over previous 24 hour cycle. Requires the out of parlour control unit to have v2.07 or above software.
- Average Total Time Spent in a Stall – The average total time that the animal was standing in a stall over the feed history of the animal. Requires the out of parlour control unit to have v2.07 or above software.
- 3 Day Average Total Time Spent in a Stall - The average total time that the animal was standing in a stall over the previous 3 complete 24 hour cycles. Requires the out of parlour control unit to have v2.07 or above software. The number of days the average is taken over can be changed in the Cowculator settings. See Chapter 7.

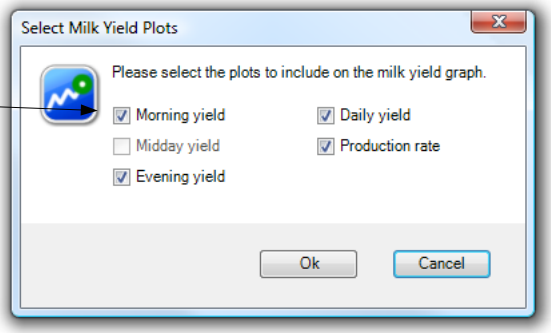
20.3 The Milk Yields Tab

The Milk Yields tab contains a line graph showing the milk yields in litres (l) for each milking, as well as the total daily yield, also in litres (l), and the production rate in millilitres per minute (ml/min). The production rate is the amount of milk the animal produces per minute between each milking. This is used to calculate the predicted daily yield, which provides an indication of whether an animal has met her production rate, and if she has not, can provide an indication of possible health problems.



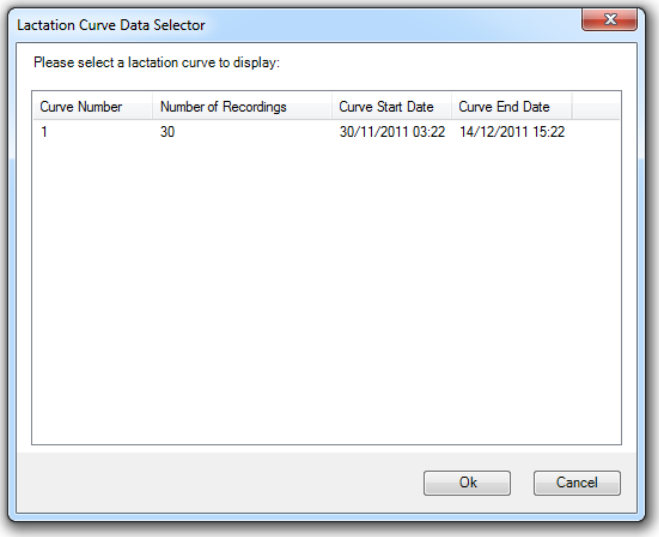
The Select Plots button in the top right-hand corner of the graph opens the Select Milk Yield Plots dialog and allows the user to choose the information displayed on the graph. The Daily Milk Yield totals shown on the graph are are dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information.

The midday yield is only available if 3 times a day milking is selected in the Cowculator settings. See Chapter 7.

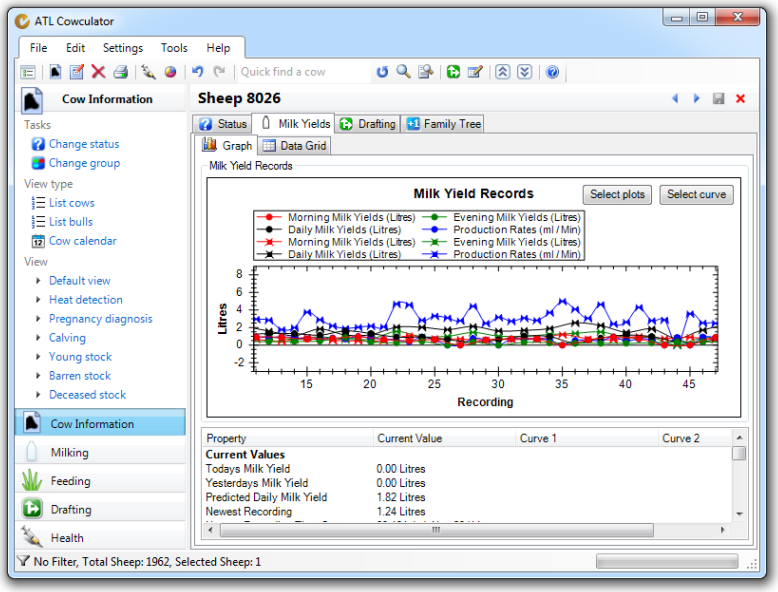


20.3.1 Comparing Lactation Curves

The Select Curve button in the top right-hand corner of the graph opens the Select Lactation Curve dialog and allows the user to choose the lactation curve displayed on the graph. Multiple lactation curves can be selected to assess animal performance by holding down the shift button and clicking on two or more lactation curves.



If more than one lactation curve is selected, the Curve Values displays information from each of the lactation curves so that animal performance can be compared quickly and easily. Each lactation curve is numbered individually - Curve 1, Curve 2 etc.



20.3.2 The Milk Yield Information Box

The Milk Yield Information Box provides information on the current milk yields, as well as the current lactation curve and previous lactation curves for comparison.

The Current Milk Yield displays the following information:

- Todays Milk Yield - The animal's daily milk yield in litres (l) for today. This value is dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information.
- Yesterdays Milk Yield - The animal's daily milk yield in litres (l) for yesterday. This value is dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information.
- Predicted Daily Milk Yield - The predicted daily yield, calculated using the animal's production rate.
- Newest Recording - The yield recorded from the previous milking in litres (l).
- Newest Recording Time Stamp - The date and time of the last milk recording. Please note that on MicroMarque3S systems, the time stamp is the same for all animals and is set when the Micro Wash Control is put into milking mode. On MicroMarque4 systems, it is set when the milking button is pressed on the Micro Milk Meter control and is therefore different for each animal.
- Newest Recording Stall Number - The stall number the animal was last milked at. Please note this is only available on the MicroMarque4.
- Newest Recording Length - The time taken for to milk the animal. Please note this is only available on the MicroMarque4.
- Newest Production Rate - The production rate for the previous milking in millilitres per minute (ml / min).
- Newest Average Production Rate - The average production rate over the last 14 days in millilitres per minute (ml / min).
- Newest Deviation - The deviation from the average production rate in litres (l) for the last milking.
- Newest Deviation Percentage - The percentage deviation from the average production rate for the previous milk recording.
- Newest Low Yield Flag - If the milk yield deviation for this animal has not been met during the previous milking (i.e. the animal has not given enough milk), then this flag is set.

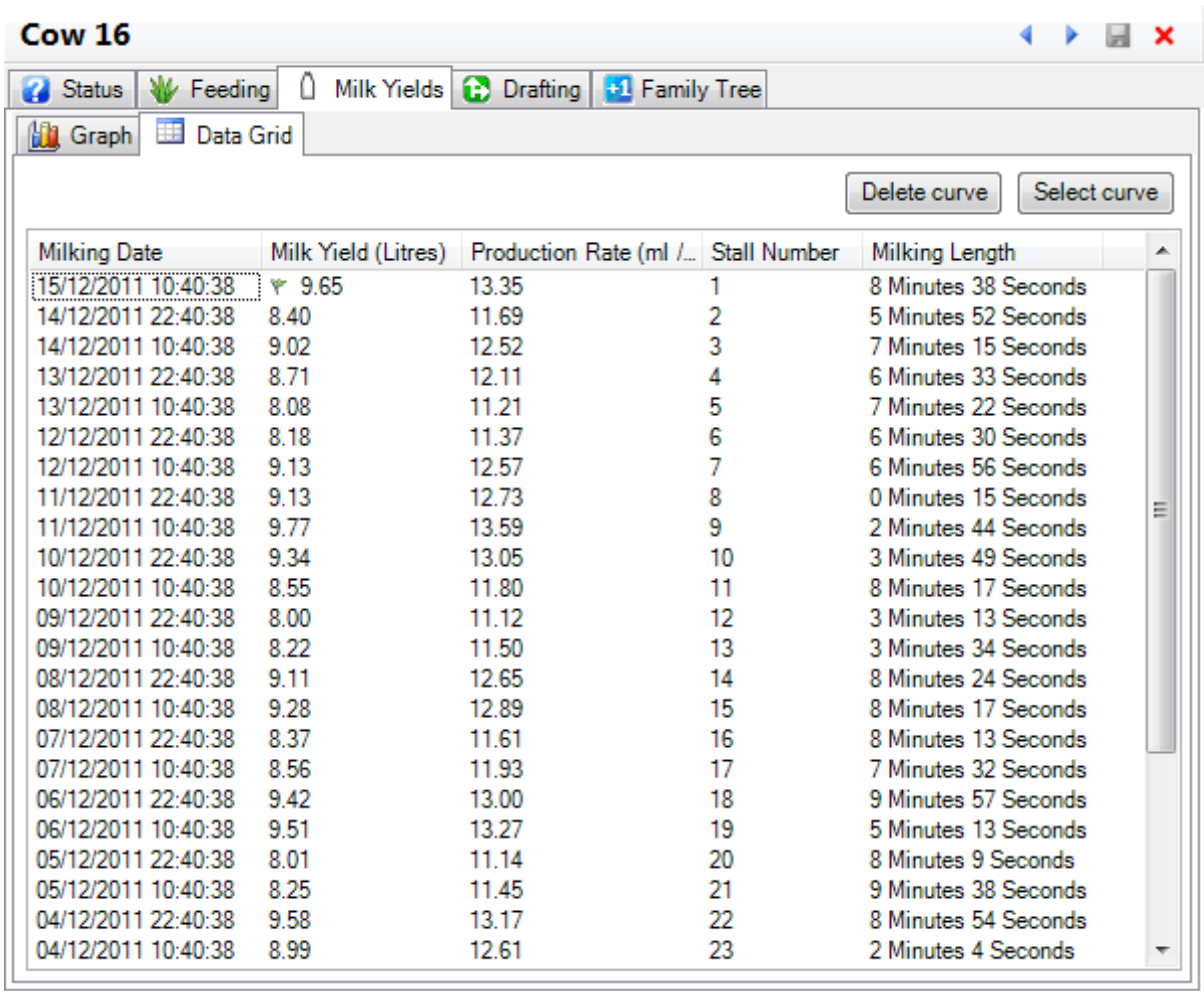
The Curve Values displays the following information:

- 100 Day Lactation Total – The total milk produced by the animal during the first 100 days of the current lactation (l).
- 6 Month Lactation Total - The total milk produced by the animal during the first 6 months of the current lactation (l).
- 12 Month Lactation Total - The total milk produced by the animal during the first 12 months of the current lactation (l).

- Lactation Total - The total milk produced by the animal during the current lactation in litres (l).
- Number of Milkings - The total number of milk yield recordings for this animal during the current lactation.
- Average Production Rates - The average production rate for the current lactation in millilitres per minute (ml / min).
- Average Daily Yields - The average daily yield for the current lactation in litres (l).
- Average Milking Length - The average milking length in minutes and seconds for the current lactation. Please note that this is only available on the MicroMarque4.
- Number of Low Yield Flags - The number of low yield flags set during the current lactation.

20.3.3 The Data Grid Milk Recordings View

The Data Grid Milk Recordings View allows the user to view individual milk recordings, the time stamp of the recording, the production rate, the stall number and the length. The view is shown below;



Milking Date	Milk Yield (Litres)	Production Rate (ml /...	Stall Number	Milking Length
15/12/2011 10:40:38	9.65	13.35	1	8 Minutes 38 Seconds
14/12/2011 22:40:38	8.40	11.69	2	5 Minutes 52 Seconds
14/12/2011 10:40:38	9.02	12.52	3	7 Minutes 15 Seconds
13/12/2011 22:40:38	8.71	12.11	4	6 Minutes 33 Seconds
13/12/2011 10:40:38	8.08	11.21	5	7 Minutes 22 Seconds
12/12/2011 22:40:38	8.18	11.37	6	6 Minutes 30 Seconds
12/12/2011 10:40:38	9.13	12.57	7	6 Minutes 56 Seconds
11/12/2011 22:40:38	9.13	12.73	8	0 Minutes 15 Seconds
11/12/2011 10:40:38	9.77	13.59	9	2 Minutes 44 Seconds
10/12/2011 22:40:38	9.34	13.05	10	3 Minutes 49 Seconds
10/12/2011 10:40:38	8.55	11.80	11	8 Minutes 17 Seconds
09/12/2011 22:40:38	8.00	11.12	12	3 Minutes 13 Seconds
09/12/2011 10:40:38	8.22	11.50	13	3 Minutes 34 Seconds
08/12/2011 22:40:38	9.11	12.65	14	8 Minutes 24 Seconds
08/12/2011 10:40:38	9.28	12.89	15	8 Minutes 17 Seconds
07/12/2011 22:40:38	8.37	11.61	16	8 Minutes 13 Seconds
07/12/2011 10:40:38	8.56	11.93	17	7 Minutes 32 Seconds
06/12/2011 22:40:38	9.42	13.00	18	9 Minutes 57 Seconds
06/12/2011 10:40:38	9.51	13.27	19	5 Minutes 13 Seconds
05/12/2011 22:40:38	8.01	11.14	20	8 Minutes 9 Seconds
05/12/2011 10:40:38	8.25	11.45	21	9 Minutes 38 Seconds
04/12/2011 22:40:38	9.58	13.17	22	8 Minutes 54 Seconds
04/12/2011 10:40:38	8.99	12.61	23	2 Minutes 4 Seconds

This view also allows the user to delete a recording curve with the Delete Curve button.

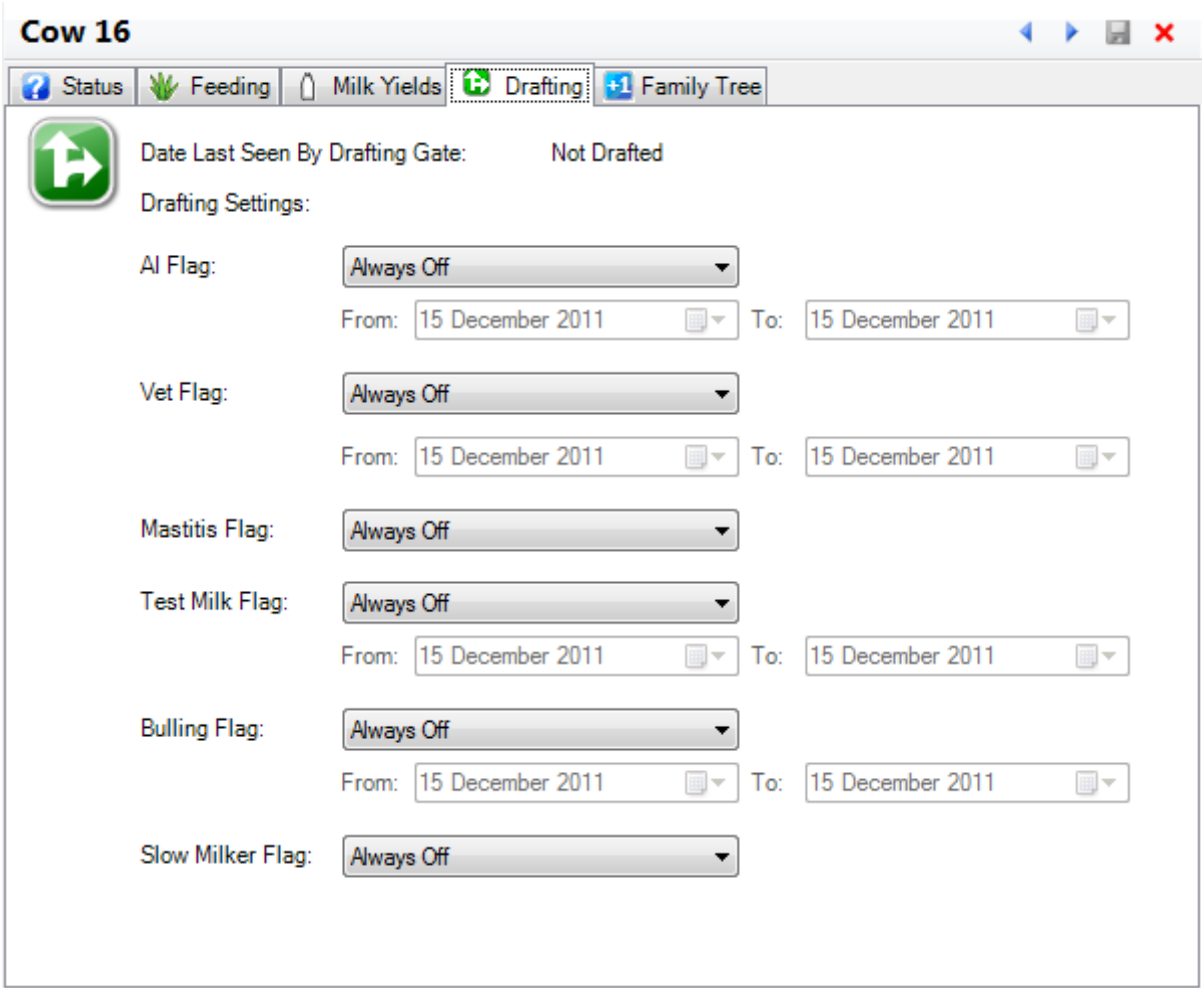
20.4 The Drafting Tab

The Drafting tab allows the user to edit when drafting flags come on and go off. The view has two

versions, depending on the parlour control connected.

20.4.1 The MicroMarque3S View

The view for the ATL Micro Marque 3s is shown below.

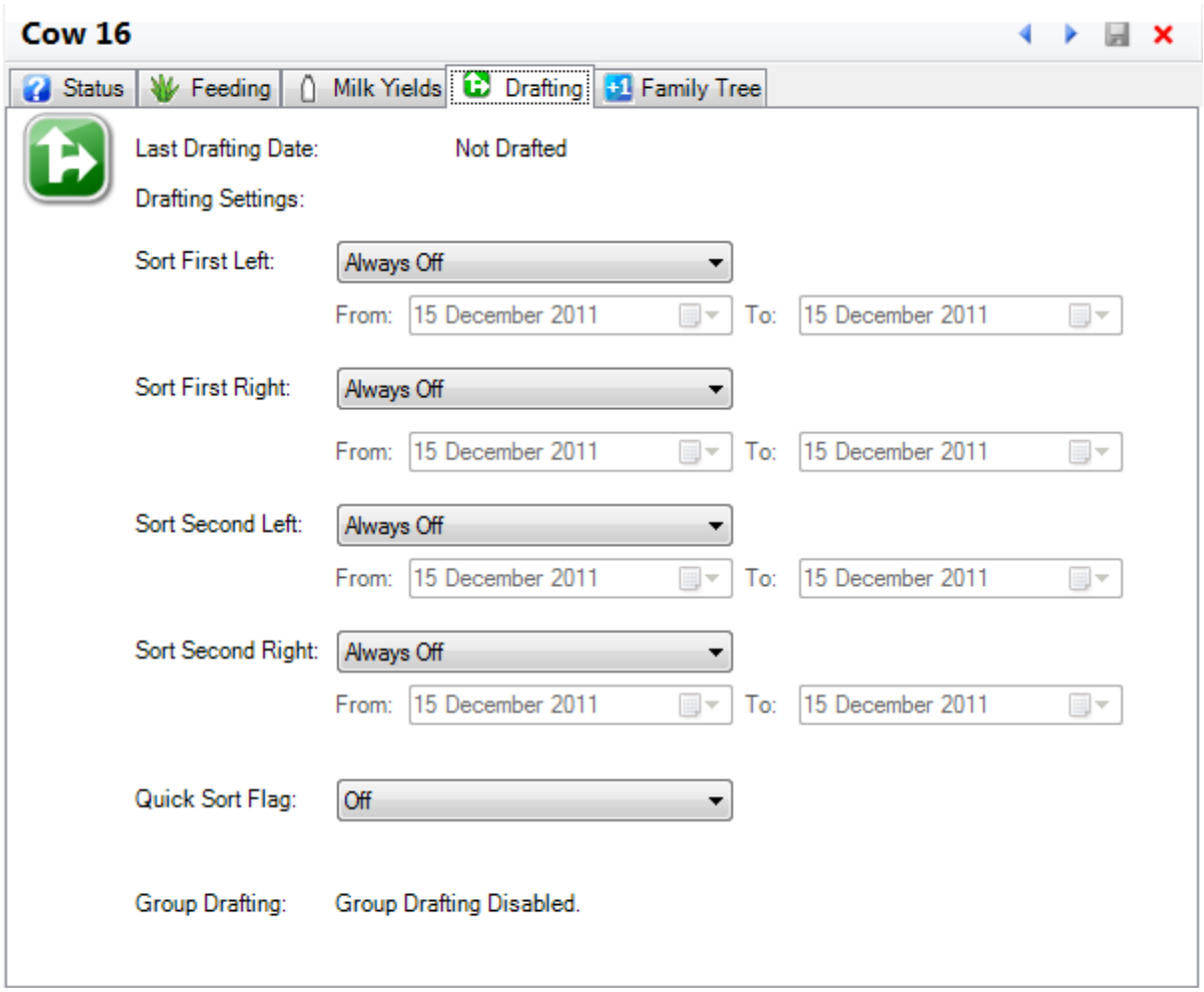


The view the attention flags that are currently set against the selected animal. The attention flags are used by the drafting system to sort out animals. The following options are available:

- Always Off - The attention is always off.
- Always On - The attention is on until the user turns it off.
- One Shot - The attention is on for one milking. When the animal is identified by the drafting system, it will be drafted / sorted once and then the attention will be automatically removed.
- Date Bound - The attention is on for the period selected by the user. Before and after this, unless the user turns the attention on, the attention will be off. NB – Requires Cowculator to send data to MicroMarque3S every day to function correctly.

20.4.2 The MicroMarque4 View

The ATL MicroMarque4 Drafting tab is shown below. This view differs from the MicroMarque3S because the MicroMarque4 has dedicated sorting flags.



The view shows the user the drafting settings that are currently set against the selected animal. The drafting settings are used by the drafting system to sort out animals. The drafting flags available are sort first left, sort first right, sort second left, sort second right, quick sort and group drafting. The following options are available:

- Always Off - The attention is always off.
- Always On - The attention is on until the user turns it off.
- One Shot - The attention is on for one milking. When the animal is identified by the drafting system, it will be drafted / sorted once and then the attention will be automatically removed.
- Date Bound - The attention is on for the period selected by the user. Before and after this, unless the user turns the attention on, the attention will be off.

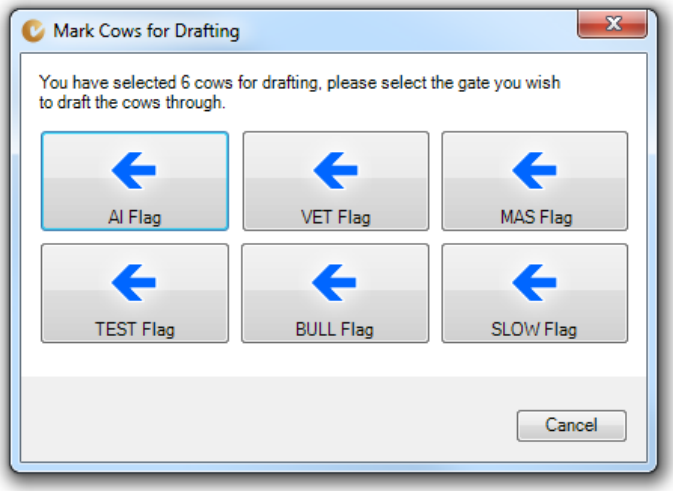
20.4.3 Group Drafting

Group drafting is only available with the MicroMarque4 and allows the user to automatically sort animals by group. Therefore, the high yielders could automatically be split from the rest of the herd after the milking so they can be given more feed. Group drafting can be turned on or off in the Groups dialog box. Please see Chapter 20 for more information on group drafting.

20.4.4 The Mark Animals for Drafting Dialog

The Mark Animals for Drafting dialog allows users to select multiple animals from the main list of animals and draft them through the desired drafting gates. The dialog has two versions, one for the ATL MicroMarque3s and one for the ATL MicroMarque4.

The ATL Micro Marque 3s version is shown below;

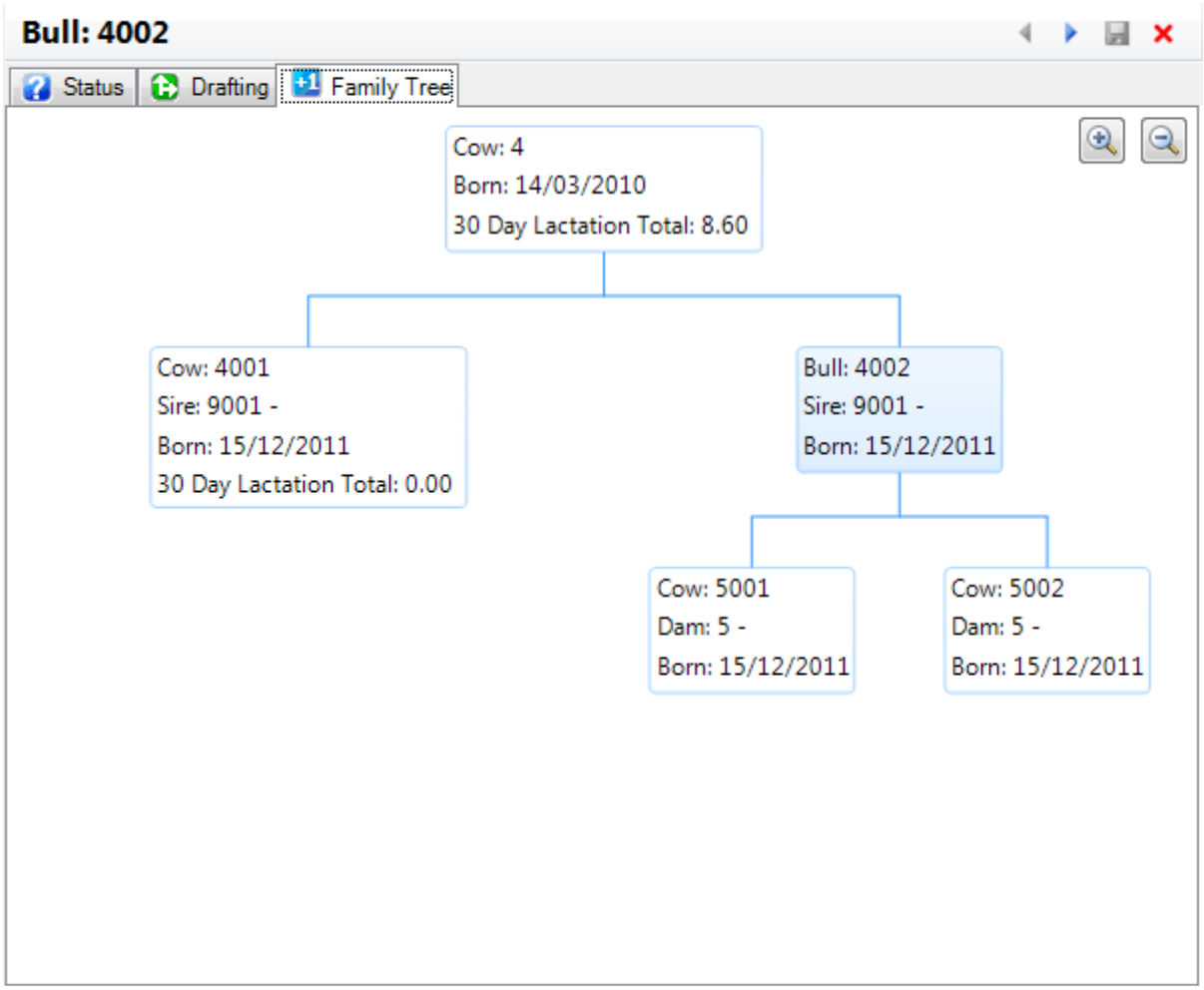


The ATL Micro Marque 4 version is shown below;

The Reset all other drafting flags check box allows the user to clear all other drafting flags which are set against that animal, so that the desired drafting function is achieved. Multiple animals can be selected by holding down the Ctrl key and clicking on the animals.

20.5 The Family Tree Tab

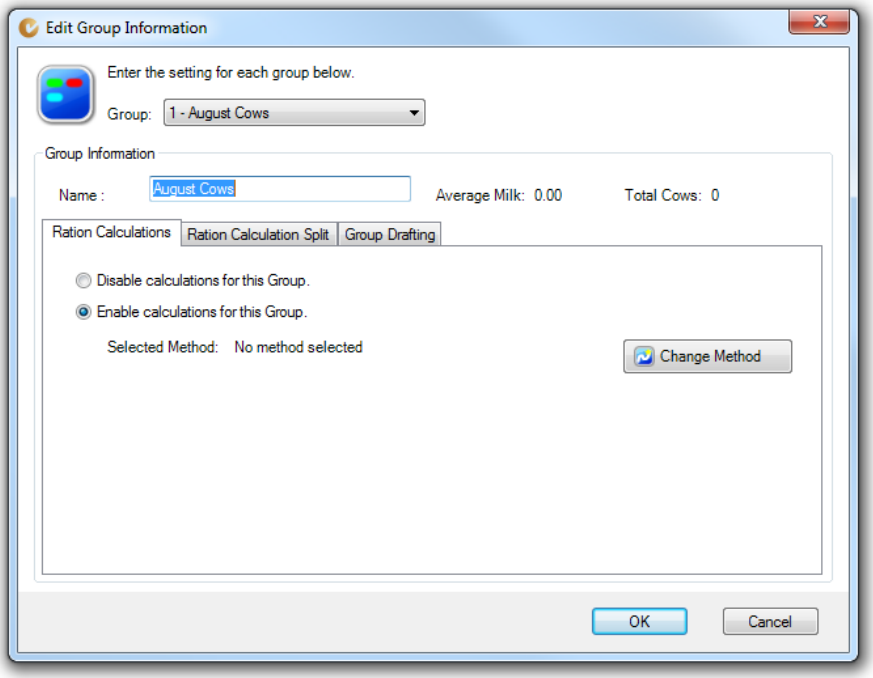
The family tree tab allows the user to view the lineage of the animals in the herd. The tab can bee seen below;



The user can use the zoom buttons to see the whole tree, and zoom in on individual animals.

21 Groups

There are 24 groups available for use and they can contain as many animals as the user requires. The name of each group can be changed by the user and each group can be configured to link to any one of the rations calculations available from the ration calculations menu. The groups dialog box can be found by clicking on the Settings on the main menu bar, and then Groups.



21.1 Creating Groups

The Edit Group Information dialog is used to edit the group name, change the ration calculation method, change the ration split between in parlour and out of parlour feeding, and, if a MicroMarque4 is connected, set up group drafting.

The user can name each group to make it more obvious what the group is for or for identification of the animals in the group.

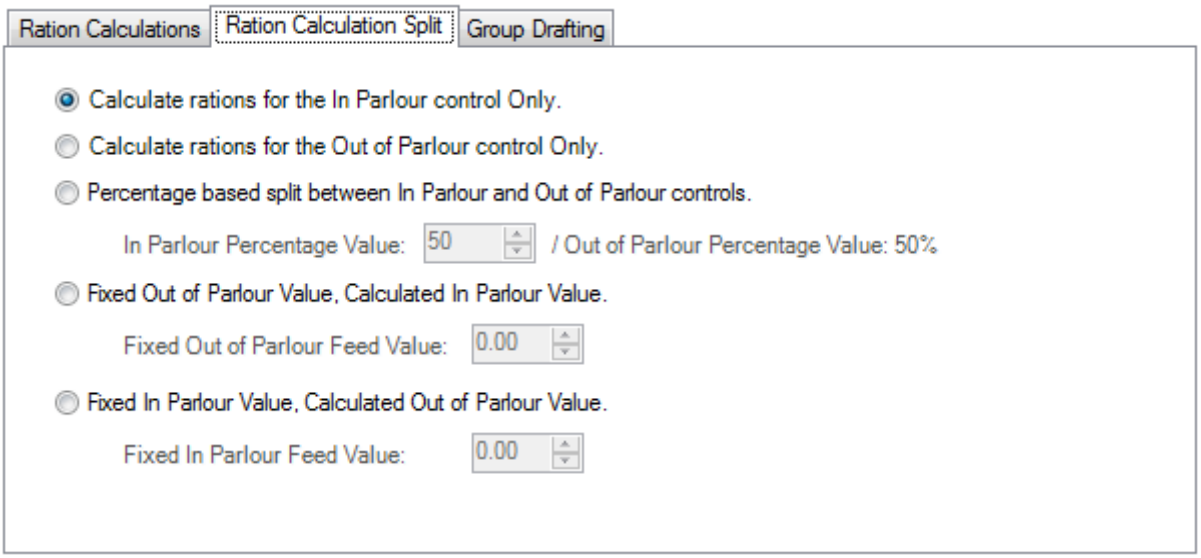
21.2 Group Ration Calculations

The user can specify, for each of the 24 groups, whether the group will have rations calculated for it. The user can select from the two options to control how rations are calculated.

- Disabled - This option disables ration calculations for this entire group.
- Enabled - This option enables the ration calculations for this entire group. The user will then need to select the method to calculate rations by. This is done by clicking the “Change Method” button. For more information on ration calculations, please see Chapter 21.

21.3 Group Ration Calculation Split

Once the ration calculation method has been selected, the user can select how the calculated ration is allocated to an animal in the group from the ration calculation split tab as shown overleaf.

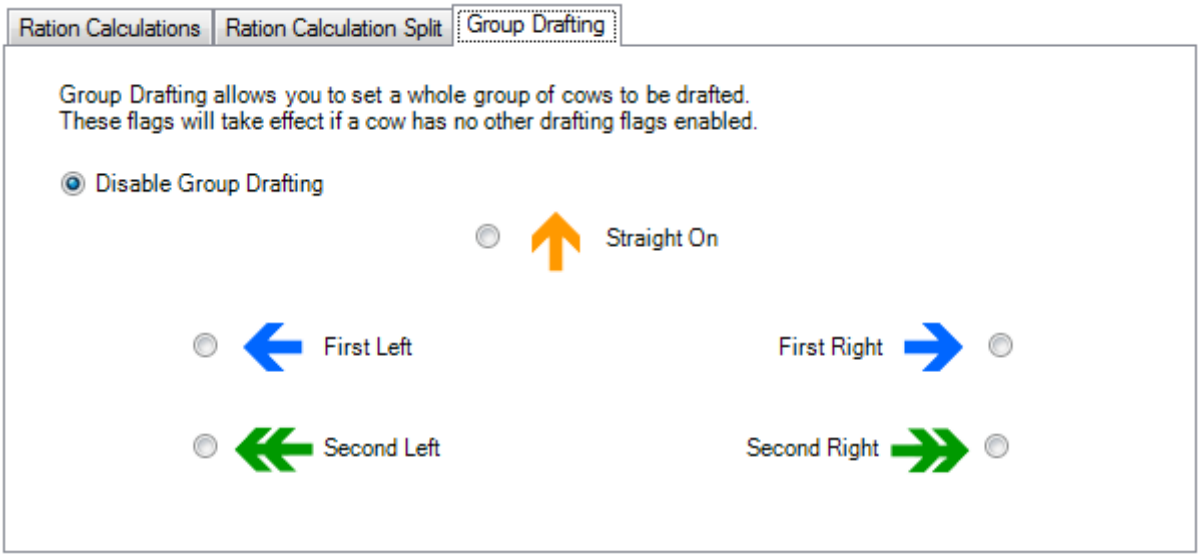


There are 5 options for splitting the calculated ration:

- Calculate rations for the in parlour control only - The whole ration will be allocated to the in parlour feeding system.
- Calculate rations for the out of parlour control only - The whole ration will be allocated to the out of parlour feeding system.
- Percentage based split between in parlour and out of parlour - This method allows the user to set a percentage split for the calculated ration between the in parlour and out of parlour feeding systems.
- Fixed out of parlour , calculated in parlour - This method allows the user to specify a fixed ration for the out of parlour feeding system and have the remaining calculated feed allocated to the in parlour feeding system.
- Fixed in parlour , calculated out of parlour - This method allows the user to specify a fixed ration for the in parlour feeding system and have the remaining calculated feed allocated to the out of parlour feeding system.

21.4 Group Drafting

The final tab page of the Edit Groups dialog contains group drafting settings.



The settings allow the user to enable group drafting in the ATL MicroMarque4. Please note this function is only available in the ATL MicroMarque4.

22 Ration Calculations

There are three methods of calculating rations available in ATL Cowculator. These are as follows:

- Feed Table - Simple feeding
- Feed to Yield - Feeding based upon individual milk yields
- Ration Curve - Feeding based upon days in milk

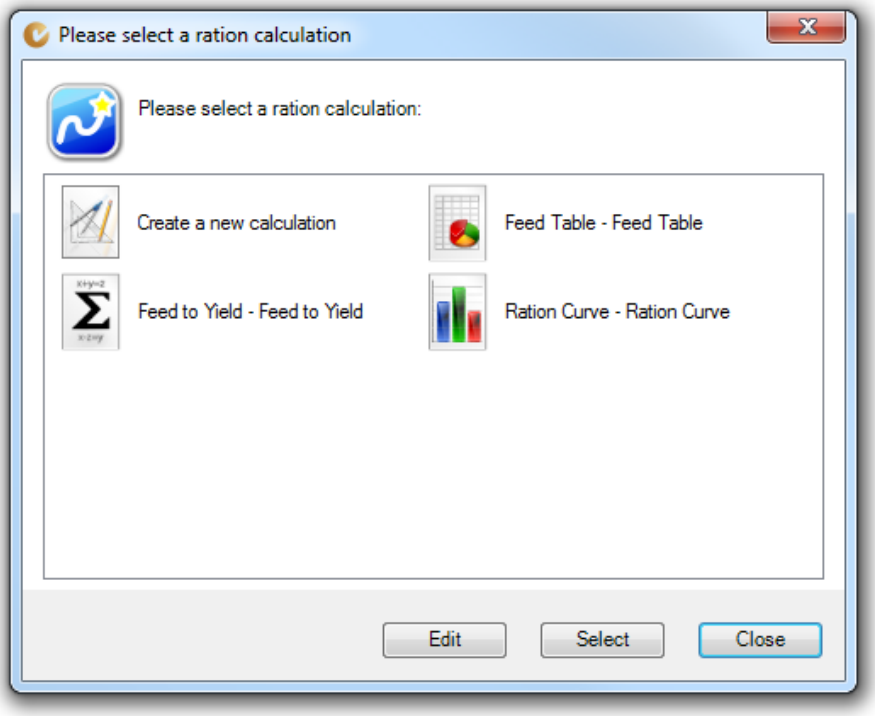
The feed table and feed to yield ration calculations require milk yield information in order for them to be carried out. Milk yield information can be obtained via manual entry (see Chapter 14), from the ATL Micro Milk Meter system or from a Milk Meter Interface linked to a competitors milk meter system. Milk yields can also be imported from NMR Datastream discs and the CIS equivalent. For information on feed tables and for information on feed to yield please see Chapter 16.

The ration curve calculates rations based upon the number of days a animal has been in milk and does not require milk yields. For information on ration curves please see Chapter 16.

22.1 Creating and Selecting Ration Calculations

Ration calculations can be created and/or selected in one of two ways. By clicking on Settings on the Main Menu bar, and then Ration Calculations, or by clicking the Change Method button in the Groups dialog box,

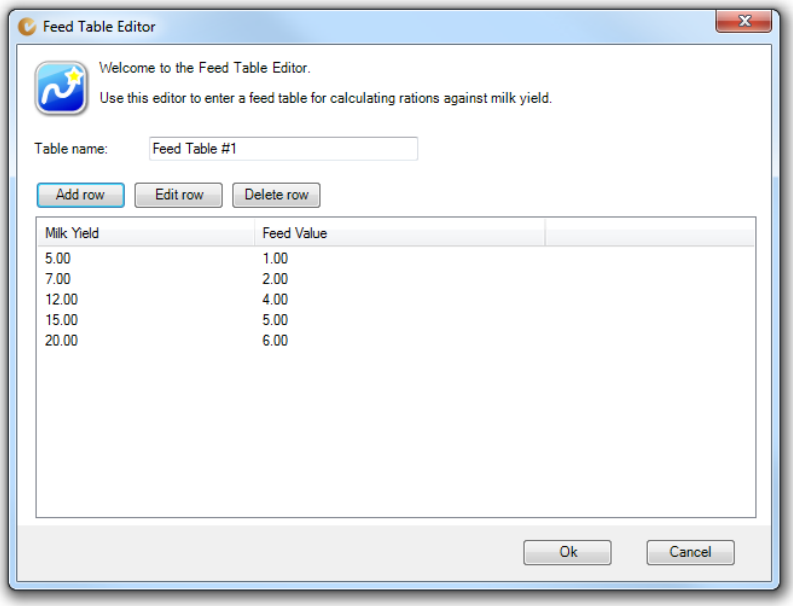
The Ration Calculation dialog box is shown below.



The user can create, edit or select a ration calculation. If the user has arrived here from the Groups dialog box, a ration calculation can be assigned to that group.

22.2 Feed Tables

A feed table is a very simple way to allocate rations to the herd based on milking performance. The Feed Table Editor can bee seen below:



The ration calculation uses the milk yield source value to set a feed ration for each animal. Using the table above as an example, a animal that produces between 12 and 15 litres of milk will receive a ration of 4.00 kilograms (kg) and a animal which products more than 20 litres of milk will receive a ration of 6.00 kilograms (kg) of feed.

Click Add Row to add a row , Edit Row to edit a row and Delete Row to delete a row from the feed table.

The milk yield source value is chosen in the Cowculator Settings (see Chapter 7 for more information) and can be one of the following:

- **Yesterdays Daily Milk Yield -** The daily milk yield recorded yesterday.
- **Average Daily Yield -** The average daily milk yield over a selectable number of days.
- **Predicted Daily Yield -** The calculated predicted daily yield using the production rate. This is the average production rate over the last 14 days.
- **Newest Recording** – The newest recording. This setting is only recommended for users using the NMR DataStream import facility.

Using the following milk yields as an example, the ration calculations would be.

Day	Daily Milk Yield	Predicted Daily Milk Yield
Wednesday	20.5 litres	20.3 litres
Thursday	19.3 litres	19.8 litres
Friday	20.1 litres	20.4 litres
Saturday	19.8 litres	19.9 litres
Sunday	20.5 litres	20.3 litres

Monday	19.3 litres	19.8 litres
Yesterday	20.1 litres	20.4 litres

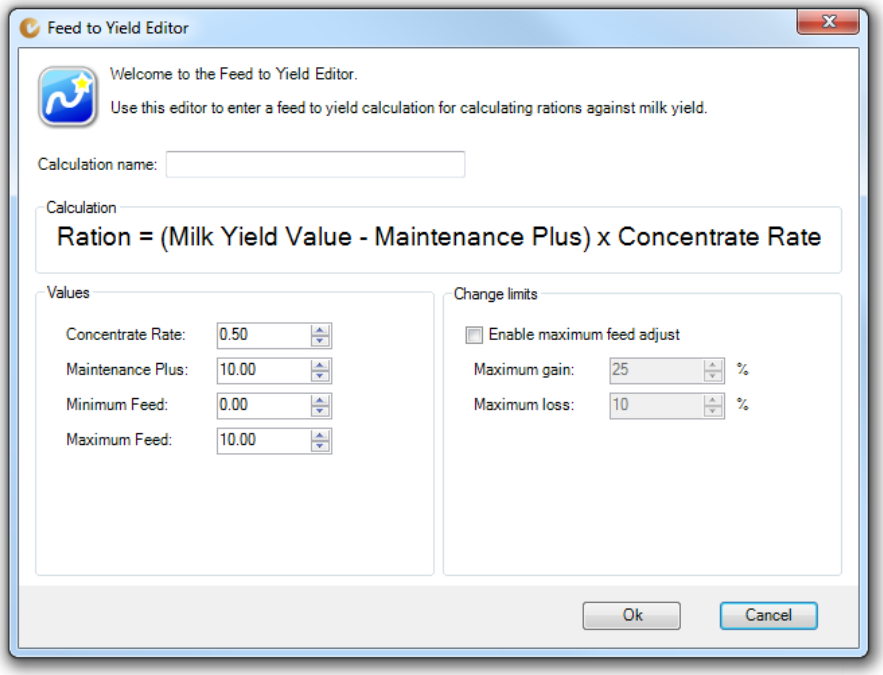
Example 1 - If yesterday a animal produced a milk yield of 20.1 litres (l), based upon the feed table shown in the picture on the previous page, the animal would receive 6.0 kilograms (kg) of feed today, if a ration calculation was carried out prior to today's morning milking.

Example 2 - If over the last 7 days a animal produced an average milk yield of 19.9 litres (l), based upon the feed table shown in the picture on the previous page, the animal would receive 5.0 kilograms (kg) of feed today, if a ration calculation was carried out prior to today's morning milking.

Example 3 - If the predicted milk yield is 20.4 litres (l), based upon the feed table shown in the picture on the previous page, the animal would receive 6.0 kilograms (kg) of feed today, if the ration calculation was carried out prior to today's morning milking.

22.3 Feed to Yield

The feed to yield calculation is very simple, with the feed for a animal calculated using the amount of milk the animal is producing. The calculation is shown in the image below.



The ration calculation uses the milk yield source value and produces a feed ration for each animal based upon the following calculation:

Ration = (Milk Yield Value - Maintenance Plus Value) x Concentrate Rate

The milk yield source value is chosen in the Cowculator Settings (see Chapter 7 for more information) and can be one of the following:

- **Yesterdays Daily Milk Yield -** The daily milk yield recorded yesterday.
- **Average Daily Yield -** The average daily milk yield over a selectable number of days.
- **Predicted Daily Yield -** The calculated predicted daily yield using the production rate. This is the average production rate over the last 14 days.
- **Newest Recording** – The newest recording. This setting is only recommended for users using the NMR DataStream import facility.

The following values are user set:

- **Concentrate Rate -** The concentrate rate is the amount of feed (in kilograms) that is required to result in a milk yield increase of 1 litre. For bought in feed, the value should be available from the supplier. For home mix, special analysis is recommended. Default = 0.5.
- **Maintenance Plus -** The maintenance plus value represents the amount of milk that the animal would produce naturally without any additional protein. The actual value may vary according to calving date and position in the lactation cycle. Default = 10.0 litres.
- **Minimum Feed -** The minimum amount of feed that will be provided as a ration. Default = 0kg.

- **Maximum Feed -** The maximum amount of feed that will be provided as a ration. Default = 10kg.

ATL Cowculator also allows the user to set limits on the increase or decrease of animals feed, reducing the impact of any problems with milk yield recording.

To do this, tick the Enable Maximum Feed Adjust box and set the maximum gain and maximum loss settings. As a default, these are set to 25% maximum gain and 10% maximum loss. If the ration calculation provides a new value that is different by more than the maximum gain or loss value, the ration will be set at a value equivalent to the maximum gain or loss value.

Using the following milk yields as an example, and a maintenance plus value of 10.0 litres and a concentrate rate of 0.5, the ration calculations would be.

Day	Daily Milk Yield	Predicted Daily Milk Yield
Wednesday	20.5 litres	20.3 litres
Thursday	19.3 litres	19.8 litres
Friday	20.1 litres	20.4 litres
Saturday	19.8 litres	19.9 litres
Sunday	20.5 litres	20.3 litres
Monday	19.3 litres	19.8 litres
Yesterday	20.1 litres	20.4 litres

Example 1 -If yesterday a animal produced a milk yield of 20.1 litres (l), based upon the feed to yield calculation the animal would receive 5.0 kilograms (kg) of feed today, if a ration calculation was carried out prior to today's morning milking.

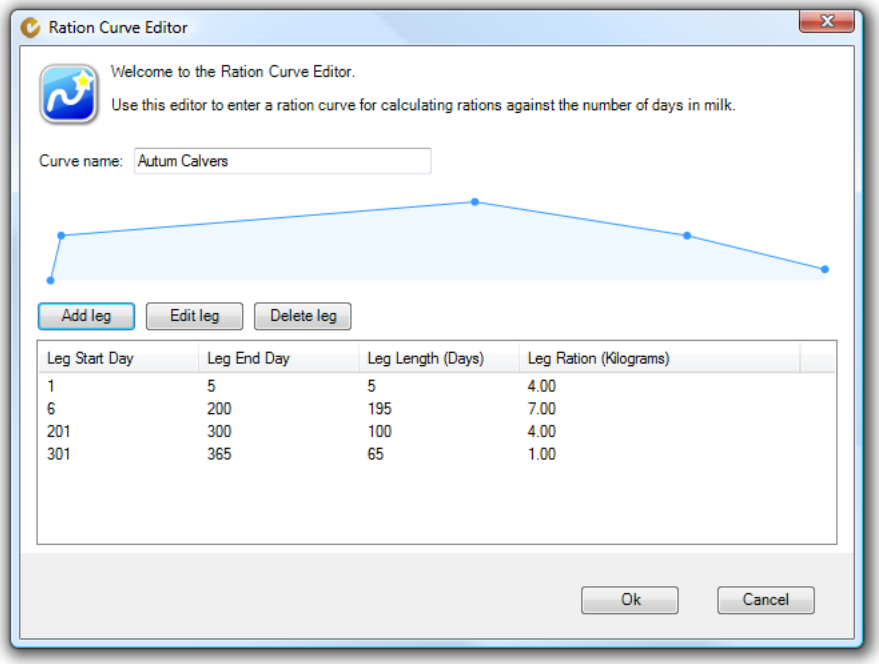
Example 2 -If over the last 7 days a animal produced an average milk yield of 19.9 litres (l), based upon the feed to yield calculation the animal would receive 4.9 kilograms (kg) of feed today, if a ration calculation was carried out prior to today's morning milking.

Example 3 - If the predicted milk yield is 20.4 litres (l), based upon the feed to yield calculation, the animal would receive 5.2 kilogram (kg) of feed today, if the ration calculation was carried out prior to today's morning milking.

22.4 Ration Curve

The ration curve calculation allows users to create a feeding regime based upon the number of days a animal has been in milk. The user decides the ration they would like to feed a animal after a certain number of days in milk, adding as many points on the curve as required, and ATL Cowculator works out the amount of feed to be fed between the entered points and changes the animals rations accordingly.

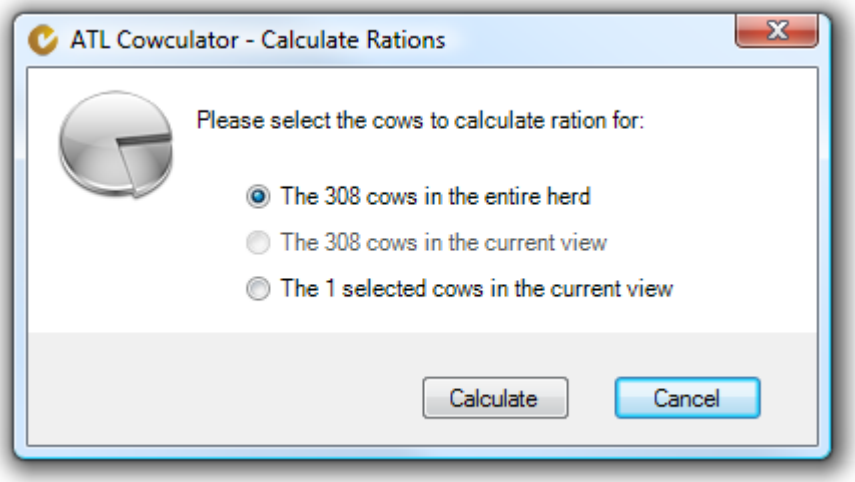
Click Add Leg to add a leg, click Edit Leg to edit a leg and click Delete Leg to delete a leg from the ration curve.



Please note that for the rations to be changed, the ration calculation has to be run everyday and if on a MicroMarque3S system, downloaded to the parlour control.

22.5 Calculating Rations

When the Calculate Rations function is initiated, either by clicking the calculate rations button  or by selecting the 'Edit' menu and then clicking the Calculate Rations item, the Calculate Rations dialog is shown below:



The dialog allows the user to perform the ration calculations for all the animals, only the currently listed animals in the list view, or only for the currently selected animals in the list view.

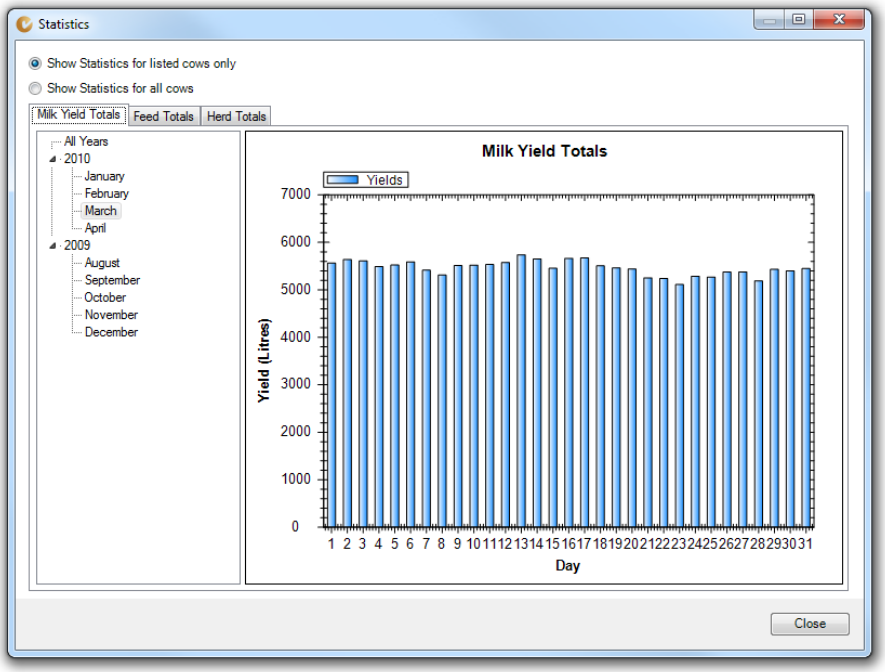
The ration calculation should be run as regularly as required. For example, if the ration curve calculation is being used, then the ration calculation should be run everyday, in order for the rations to be up to date. Ration calculations can be set to run automatically as a scheduled task, please see Chapter 7 for more information.

23 Herd Statistics

The Herd Statistics screen provides historical statistics on the herd. The statistics are split between three tabs - milk yield totals, feed totals and herd totals. The statistics can be filtered to include only animals in the list view using the radial buttons in the top left-hand corner of the screen, or to include all animals from the herd, including animals which have been deleted.

23.1 Milk Yield Totals

The milk yield totals tab shows all the milk produced in either yearly, monthly or daily totals displayed graphically. Milk yield totals are coloured blue on the graph.



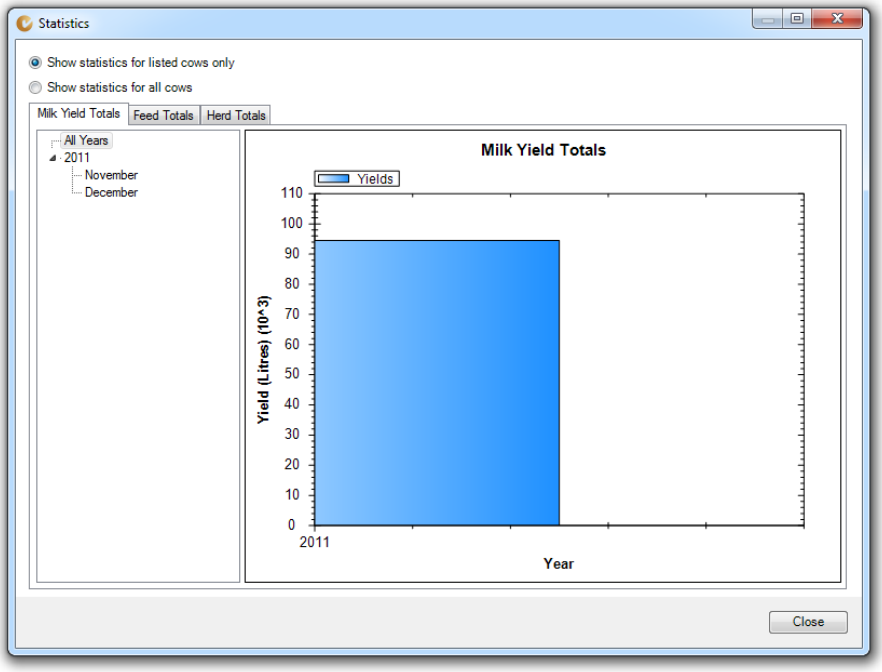
For yearly totals, click on All Years in the navigation menu on the left-hand side. For monthly totals, click on the year (i.e. 2013) and for daily totals, click on the month (i.e. March 2013). The user can mouse-over the totals on all graphs to see the actual totals in litres.

Please note that the milk yield totals will only show milk yield for animals that have been either measured using the ATL Micro Milk Meter or a competitors milk meter connected to the MicroMarque3S using the Milk Meter Interface. It does not include any milk that goes into the dump line.

The milk yield totals are dependent upon the Daily Milk Pickup Time chosen in the Cowculator Settings. See Chapter 7 for more information.

23.2 Feed Totals

The feed totals tab show all the feed used by the in parlour and out of parlour feeding systems in either yearly, monthly or daily totals displayed graphically. Feed totals are coloured green on the graph.

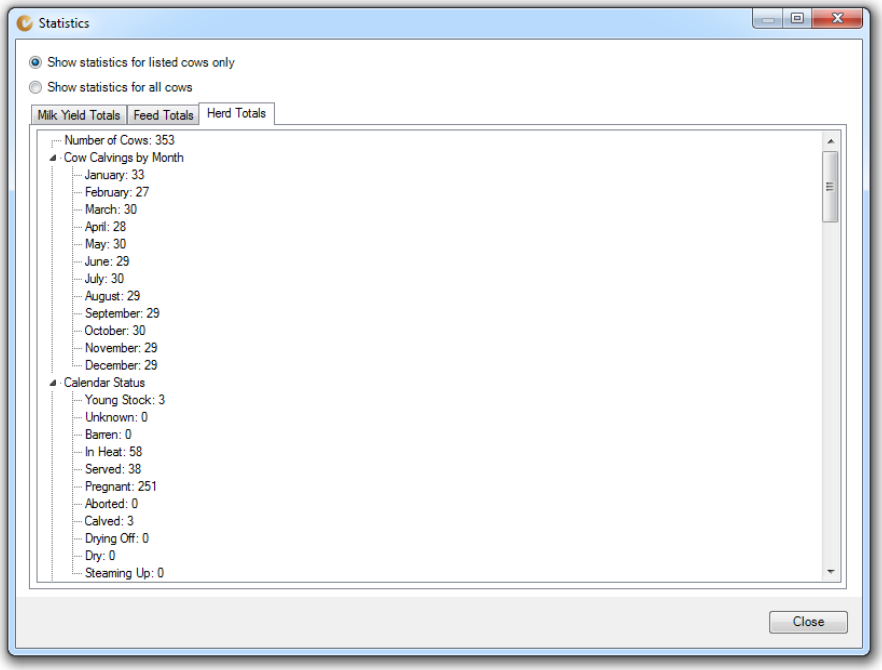


The feed totals include rations fed through both in parlour and out of parlour feeding systems. If only one type of feeding system is being used, the feed from that system will only be used within the totals.

For yearly totals, click on All Years in the navigation menu on the left-hand side. For monthly totals, click on the year (i.e. 2013) and for daily totals, click on the month (i.e. March 2013). The user can mouse-over the totals on all graphs to see the actual totals in kilograms.

23.3 Herd Totals

The herd totals tab shows totals associated with various parts of the ATL Cowculator program.



The follwing totals are available on the Herd Totals tab:

- Number of Animals - The total number of animals in the ATL Cowculator program.
- Animal Births by Month - This shows a month list with the number of animals which calved during each month.
- Calendar Status - This shows the number of animals in each of the status groups.
- Warnings - This shows the number of animals with each warning / attention.
- Animal with Yield Variations - This shows animals which have increased or decreased yields by the percentage value.
- Daily Feed Information - Shows various daily feed totals:
    - Average In Parlour Feed - The average in parlour feed for the herd.
    - Total In Parlour Daily Feed - The amount of feed allocated for all animals in the In Parlour feeding system.
    - In Parlour Feed Used Today - The amount of In Parlour feed used today.
    - Average Out of Parlour Feed A - The average value of feed for animals using the Out of Parlour Feeder A.
    - Average Out of Parlour Feed B - The average value of feed for animals using the Out of Parlour Feeder B.
    - Out of Parlour Feed Used Today - The Amount of Out of Parlour feed used today.
- Daily Yield Information - Shows various daily milk yield totals

- Average Yield - The average yield of the herd.
- Daily Yield - The daily yield of the herd.

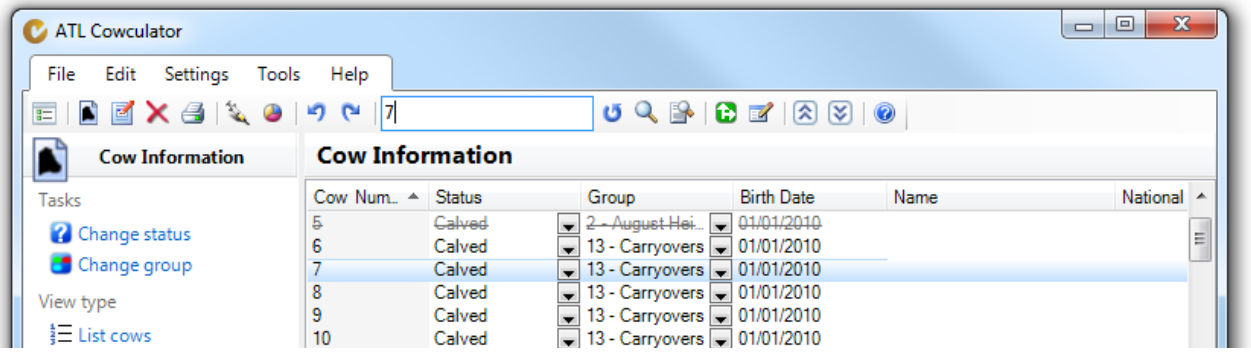
- Group Totals
  - Group number and name – The number of the group (0-23) and it's name.
  - Number of animals – The total number of animals in the group.
  - Daily yield – The total daily yield for all the animals in the group.
  - Average daily yield – The average daily yield for all the animals in the group.

24 Searching for Animals

Searching for animals can be carried out using either the quick find search box or more detailed searching. Both methods are outlined below.

24.1 Using the Quick Find Search Box

The Quick Find Search Box allows the user to quickly type in an animal's number and have ATL Cowculator select and highlight that animal in the list, as show below;

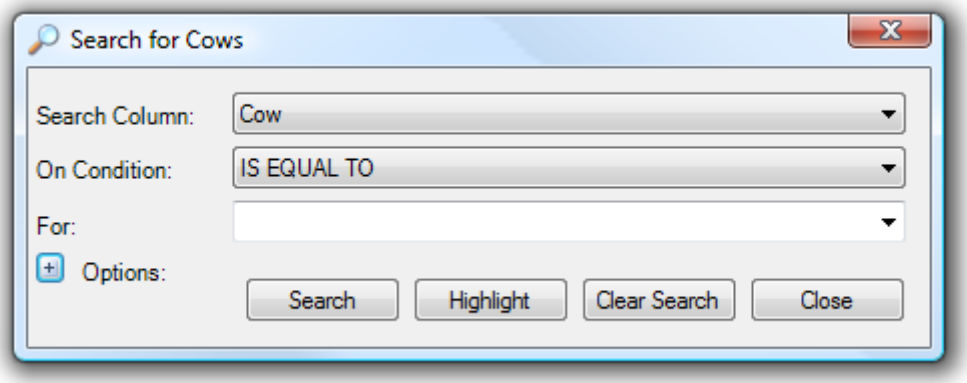


When the animal number cannot be found, the box will turn red, as shown below;

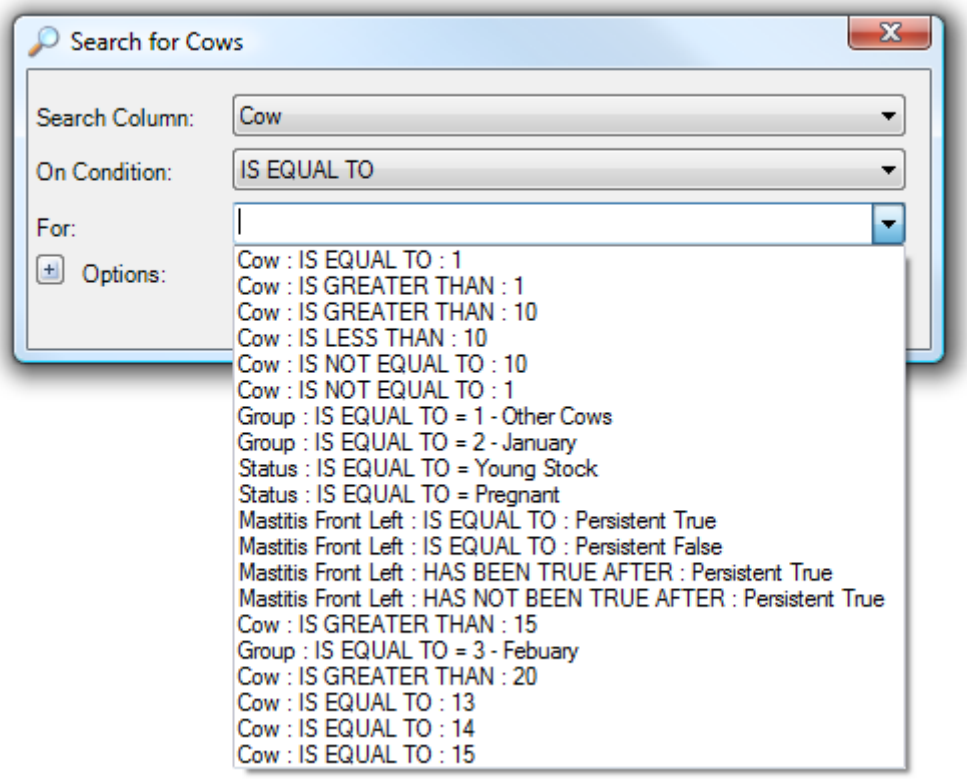
If the user has moved the selected animal since the quick find was carried out, they can click the redo button next to the entry box to repeat the search and find the animal again.

Pressing enter after the animal is found will load the “Animal Information” screen.

24.2 Detailed Searching

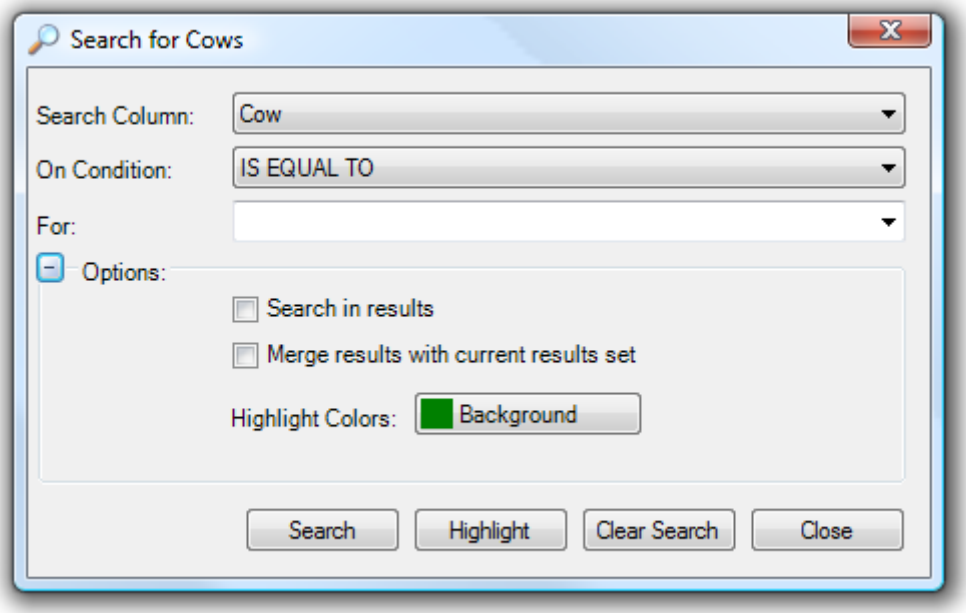


The Search for Animals dialog, found on the edit menu, can be used to search recursively through the animal list using the 'Search In Results' check box. Ticking the 'Search In Results' check box will make the search algorithm only look at animals which have been previously found, or are currently listed from a menu selection such as the Animal Filter menu item of the Organise menu.



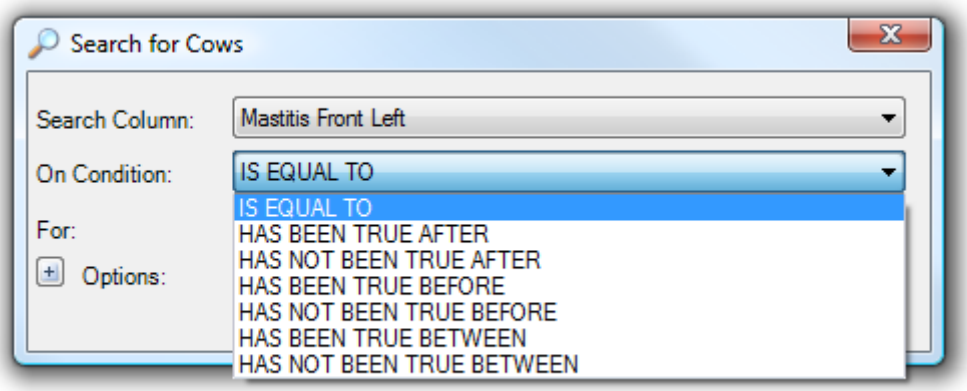
In a normal search, the previously completed searches are visible by clicking the down arrow on the end of the 'For' entry box. Selecting one of these options will load it into the search dialog. To perform the search simply click the 'Search' or 'Highlight' buttons, the difference being that the 'Search' button will only show the animals searched for, and the 'Highlight' will highlight the searched animals in the list of animals. The 'Clear Search' button will clear all filters and return a full list of all the animals.

Clicking the '+' button next to the 'Options' will show the options, as the image below shows;



The options area allows the user to specify that the searching will take place in the current list of animals, therefore if a search has already been processed, the search will only look through those results. If the user wants to change the colour of the highlight, this can be done by clicking the background colour button.

The 'Close' button will close the dialog and return to the ATL Cowculator interface.



When searching in a Warning Flag column, such as the Veterinary Attention column, there are multiple choices for the conditions;The choices are as follows;

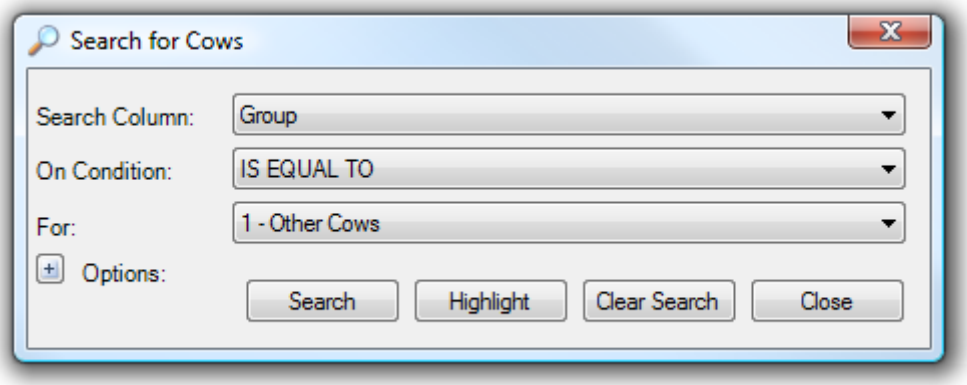
- IS EQUAL TO: this performs a search to return all the animals with the warning flag which is equal to the value specified.
- HAS BEEN TRUE AFTER: this performs a search to find all the animals where the flag has been true after a certain date.
- HAS NOT BEEN TRUE AFTER; this performs a search to find all the animals where the flag has always been false after a certain date.
- HAS BEEN TRUE BEFORE: this performs a search to find all the animals where the flag has been true before a certain date.
- HAS NOT BEEN TRUE BEFORE: this performs a search to find all the animals where the flag has always been false before a certain date.
- HAS BEEN TRUE BETWEEN: this performs a search to find all the animals where the flag has been true between two dates.
- HAS NOT BEEN TRUE BETWEEN: this performs a search to find all the animals where the flag has always been false between two dates.
- Please Note: True means Flag On, False means Flag Off.

When performing normal numeric based searches the choices are as follows:

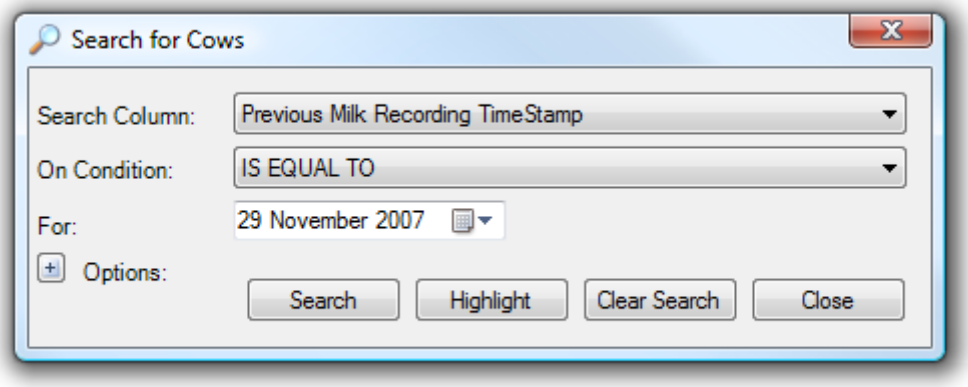
- IS EQUAL TO: this performs a search to return all the animals with the column item which is equal to the value specified.
- IS GREATER THAN: this performs a search to return all the animals with the column item which is greater than the value specified.
- IS LESS THAN: this performs a search to return all the animals with the column item which is less than the value specified.

- IS NOT EQUAL TO: this performs a search to return all the animals with the column item which is NOT equal to the value specified.

When performing selection searches, such as searching for animals in a group; see below:



The only choices are to search using the IS EQUAL TO and IS NOT EQUAL TO conditions. This is also true for any searches performed on text based columns, such as the Tag Number. When performing searches on date time columns, such as the previous milk recording time stamp; See below:

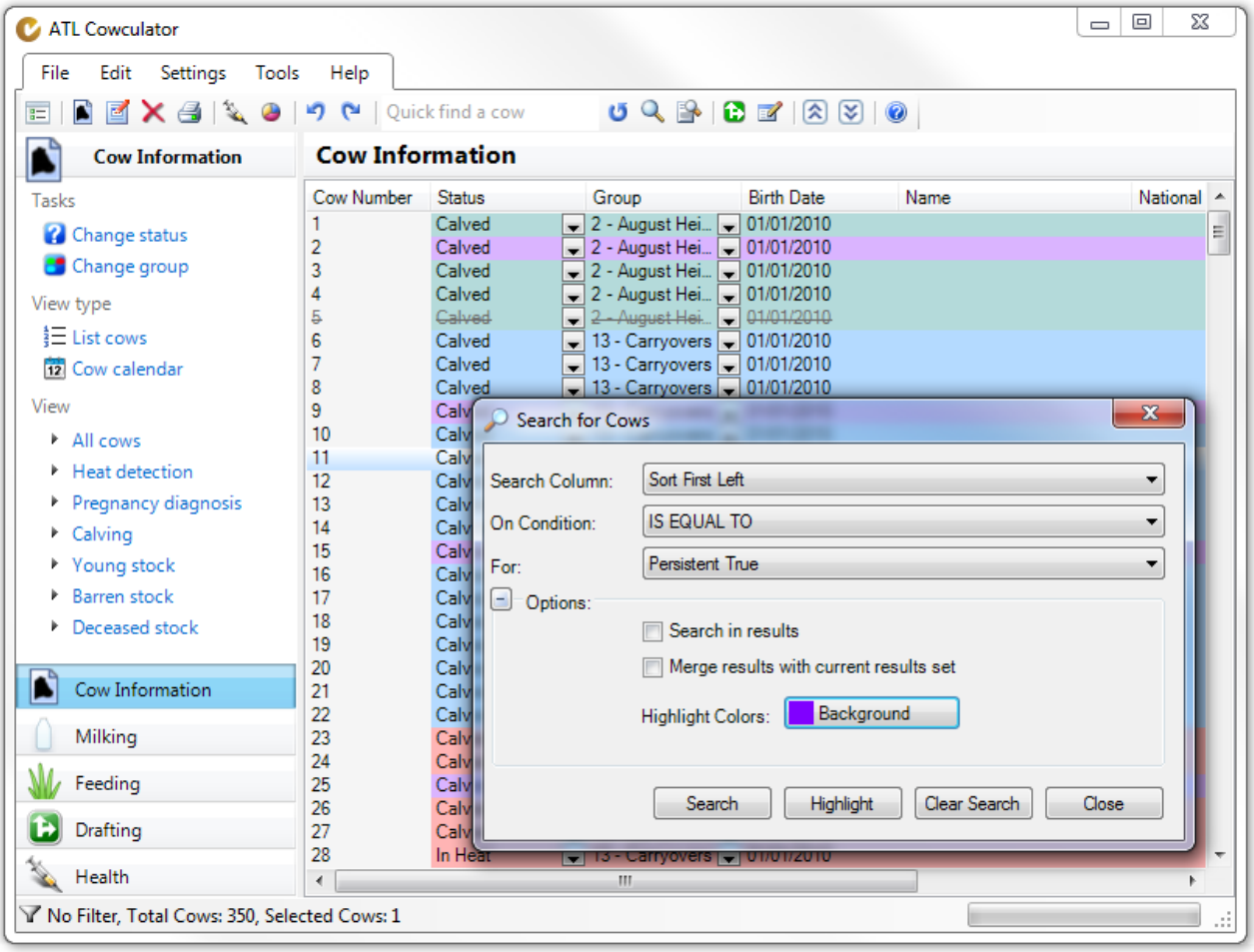


The following conditions are allowed:

- IS EQUAL TO: this performs a search to return all the animals with the column item which is equal to the date specified.
- IS AFTER: this performs a search to return all the animals with the column item which is after the date specified.
- IS BEFORE: this performs a search to return all the animals with the column item which is before the date specified.
- IS BETWEEN: this performs a search to return all the animals with the column item which is between the dates specified.
- HAS BEEN SET: this performs a search to return all the animals where this date has been set by the user or by the system.
- HAS NOT BEEN SET: this performs a search to return all the animals where this date has not been set by the user or by the system.

24.3 The Highlight Button

Using the 'Highlight' button, the user can mark all the animals in the Animal List View which conform to the search parameters. As shown below;



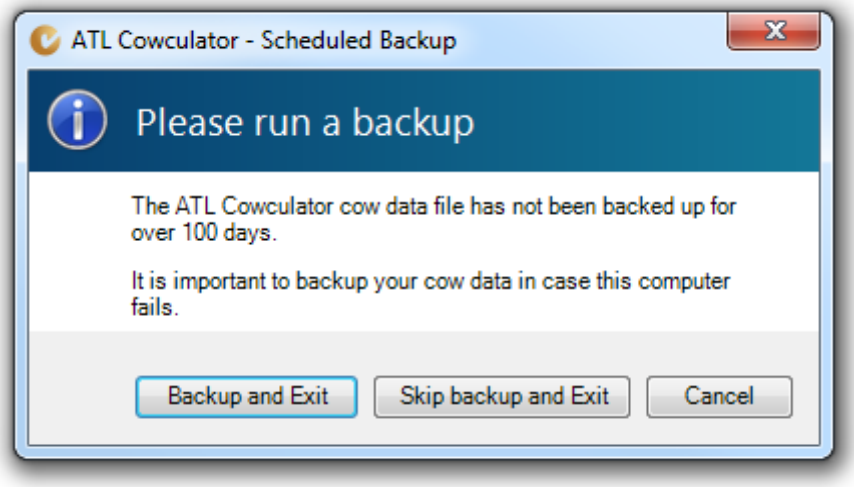
These marked animals are then shown as 'marked' on the main animal listing view. The mark is shown as a coloured highlight of the row.

25 Backing Up and Restoring Animal Data

ATL Cowculator includes a backup and restore feature to prevent data loss. The backup function is accessed using the File menu on the Main Menu bar, and then by clicking on Backup Animal Data. This will open a Save As file dialog, allowing the user to save the data file.

This file can be restored using the Restore Animal Data menu item on the 'File' menu.

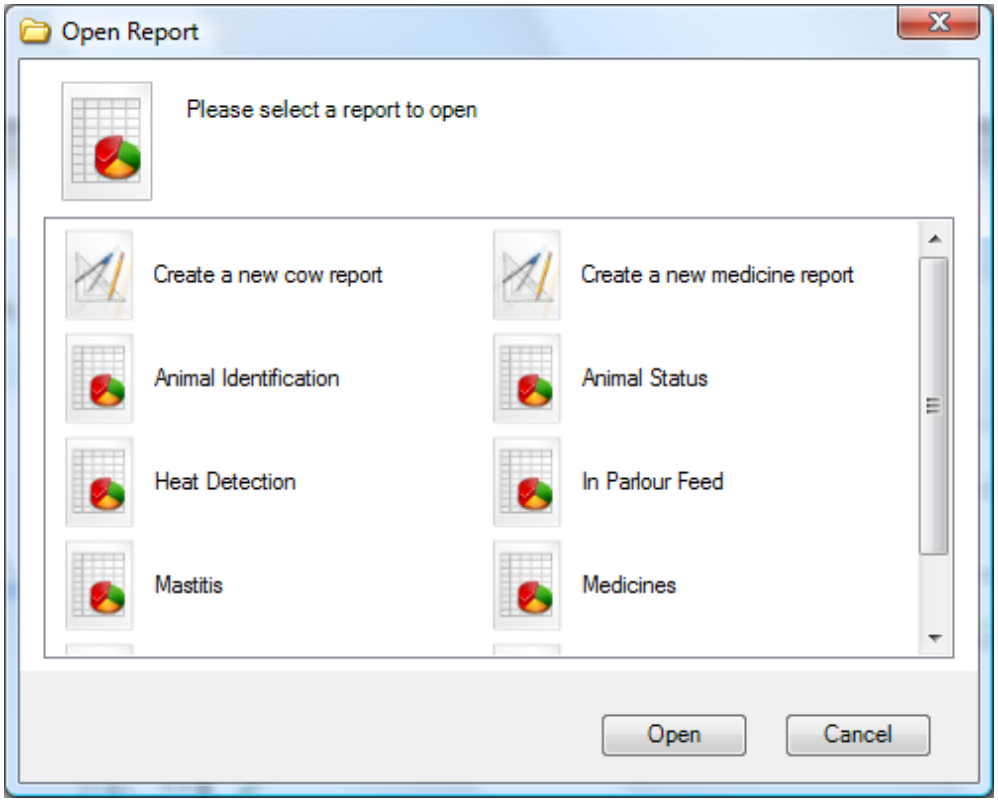
If the ATL Cowculator animal data is not backed up for over 14 days, the ATL Cowculator program will ask the user to backup the data. The following dialog will be shown when exiting the ATL Cowculator program until a backup is performed.



26 Reports

ATL Cowculator includes a report engine designed to create reports from the data stored in the program.

To access the reports click either the print button on the tool bar  or select the 'Print' sub-menu on the 'File' menu. The 'Open Report' dialog will then be shown allowing the user to select which report to generate.

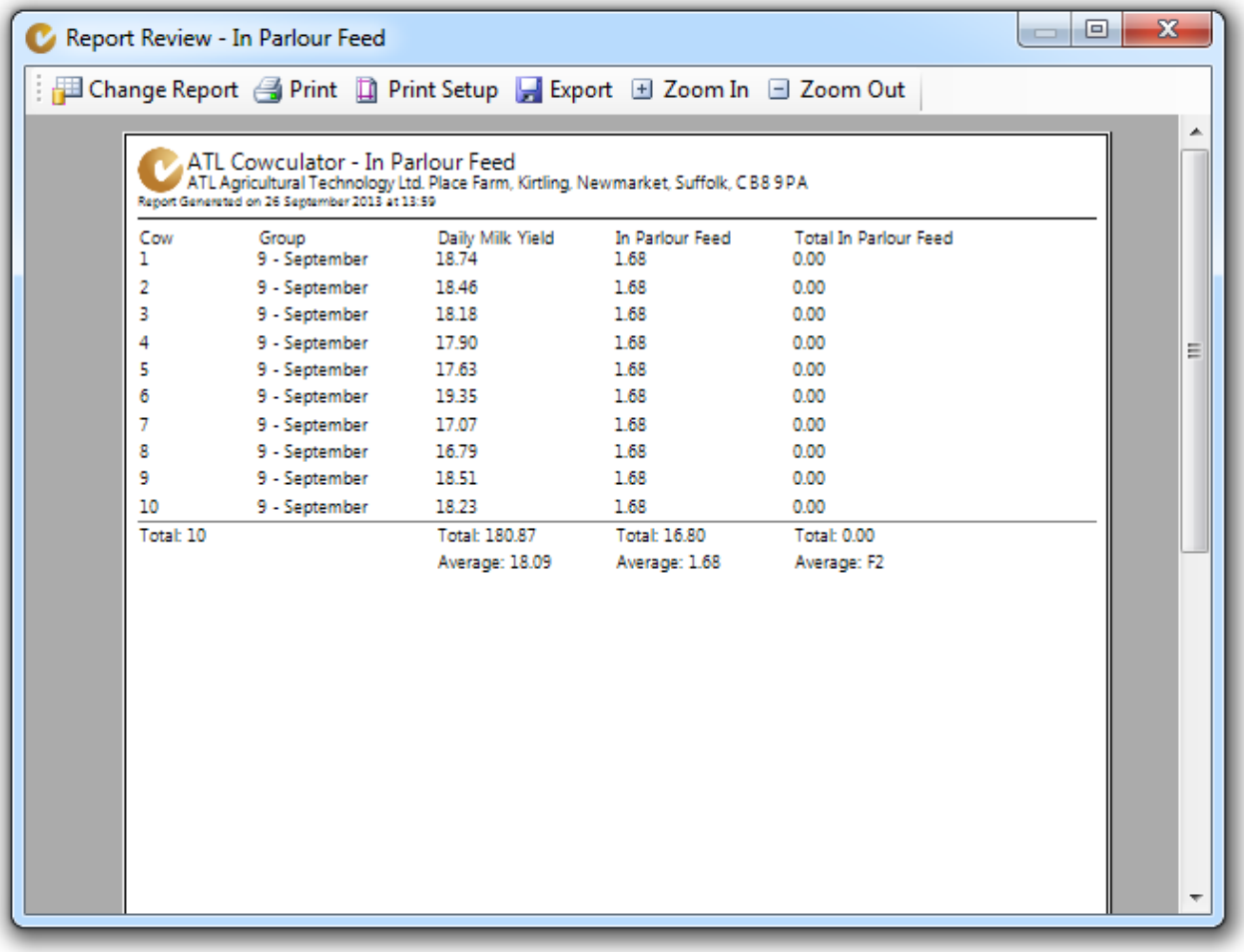


The user can then select a report and click 'Open' to open, to cancel click 'Cancel'. Double clicking on a report will open the report.

The following reports are included with the program:

Animal Identification	Animal Status	Heat Detection	In Parlour Feed
Mastitis	Medicines	Milk Production	Out of Parlour Feed

When the user click's open, the report will be generated, please note reported with a large number of search filters attached to them may take a long time to render. Below is shown the 'In Parlour Report';

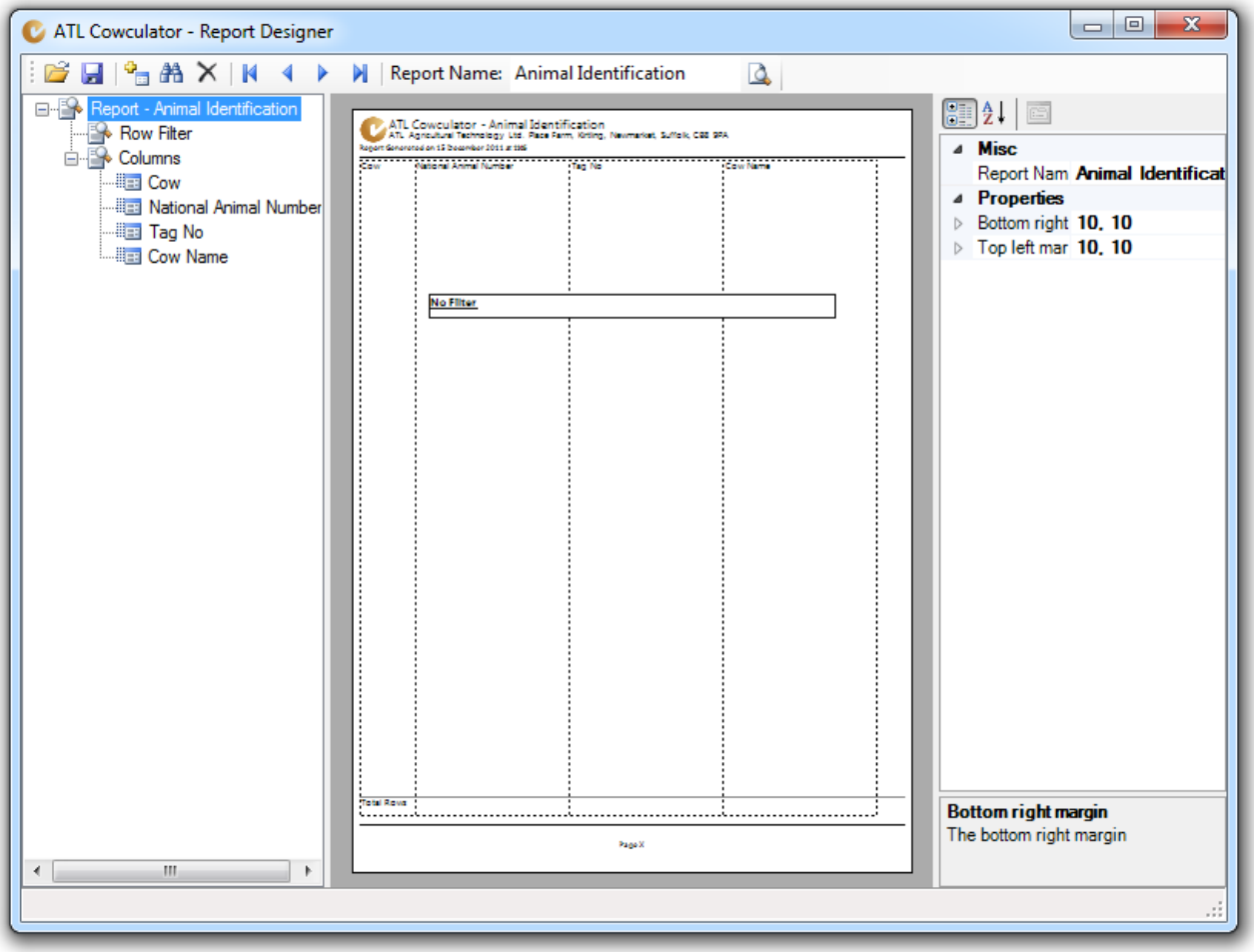


The Report Preview dialog allows the user to preview a report before printing it out. The dialog has some simple controls, as detailed below:

The button functions are detailed below;

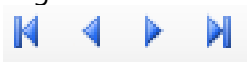
- The Change Report button, this button allows the user to change which report is being viewed.
- The Print button, this button opens the print dialog in order to print the report out.
- The Print Setup button, this button allows the user to change printer settings for the report.
- The Export button; This button allows the report to be exported as a CSV or Microsoft Excel file for editing in a spreadsheet like Microsoft Excel, or in another application.
- The Zoom In & Zoom Out buttons, these buttons allow the user to zoom into and zoom out from the report.

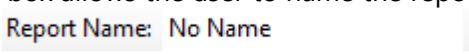
The ATL Cowculator Report Designer, as show below, allows the user to design their own reports to include different columns and animals depending on the report configuration.



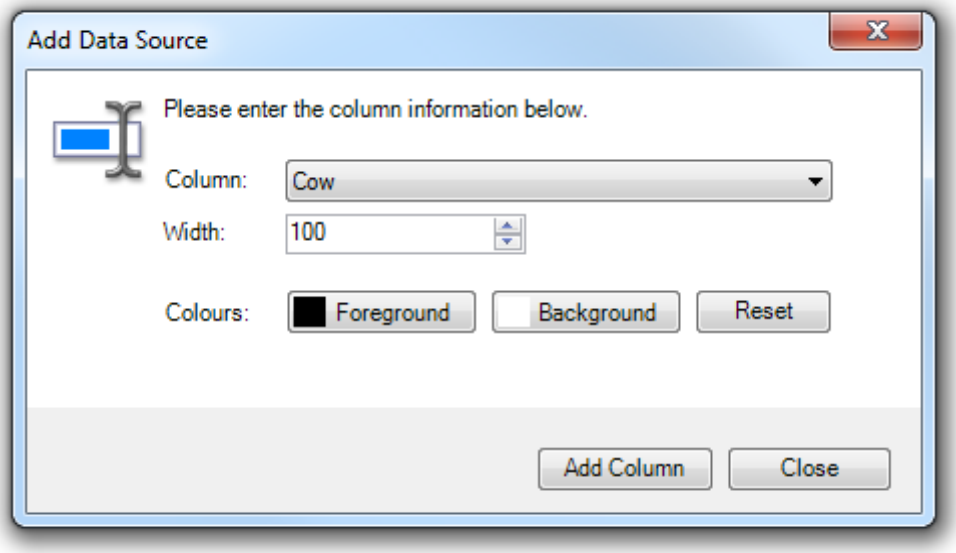
The main menu tool bar at the top of the dialog allows the user to add, remove and edit columns and search filters attached to the report. The tool bar buttons are described below;

- The Open Report button; Opens a saved report, or allows the user to create a new report.
- The Save Report button; Saves the current report.
- The Add Column button; This button Adds a column to the report.
- The Add Search Filter button; This button Adds a search filter to the report.
- The Delete Column / Filter button; The button will delete the selected column, or filter.

Further to the buttons outlined on the previous page. The designer has the ability to re-order the columns and search filters using the move group of buttons;  The first moves an item to the top of the list, the last to the bottom, the centre two move the item up or down respectively.

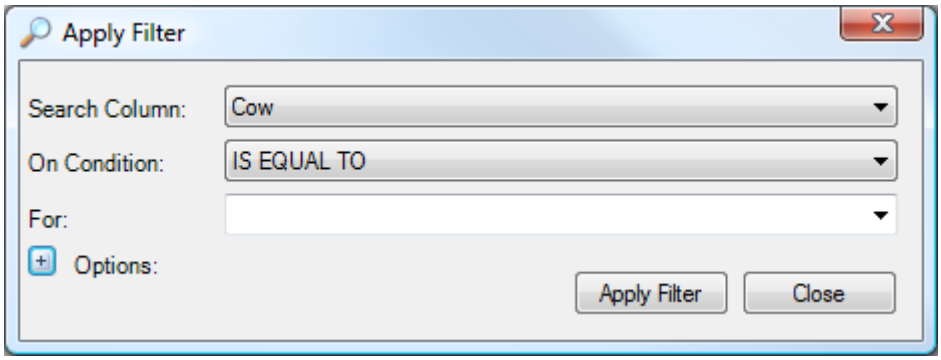
The Report name box allows the user to name the report. The box will default to 'No Name' when a new report is created;  .

To Add a column to a report click the  button, this will show the Add Data Source dialog; as shown below;



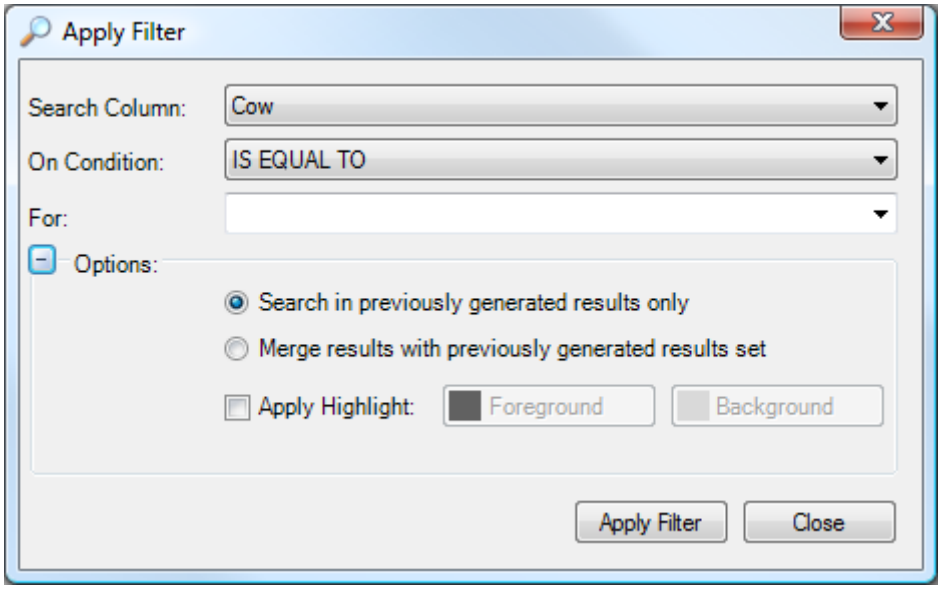
The dialog allows the user to add a column, then set its width, and any colour information. Clicking 'Add Column' will add the new column to the report and allow the user to add another column. Clicking 'Close' will return to the report designer.

When the Add Search Filter button;  is clicked, the Apply Filter dialog is shown;



The dialog will allow the addition of filters to the report so only specific animals will be listed, for example animals with yields above 10 litres.

The Apply Filter dialog also allows the user to mark animals rather than just include them, clicking the  button next to the Options label will show the advanced options for the filter;

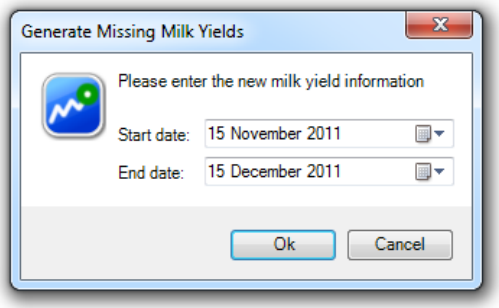


The Advanced Options enable the creation of filters which add animals to the current filter ('Merge') and also highlight the rows with user defined colours.

27 Tools

27.1 Generating Missing Milkings

ATL Cowculator contains the ability to generate missing milk yields for an animal based on their production rate up until that point in time. The tool allows the user also to specify a date range to generate the milking information for. The tool dialog is shown below;



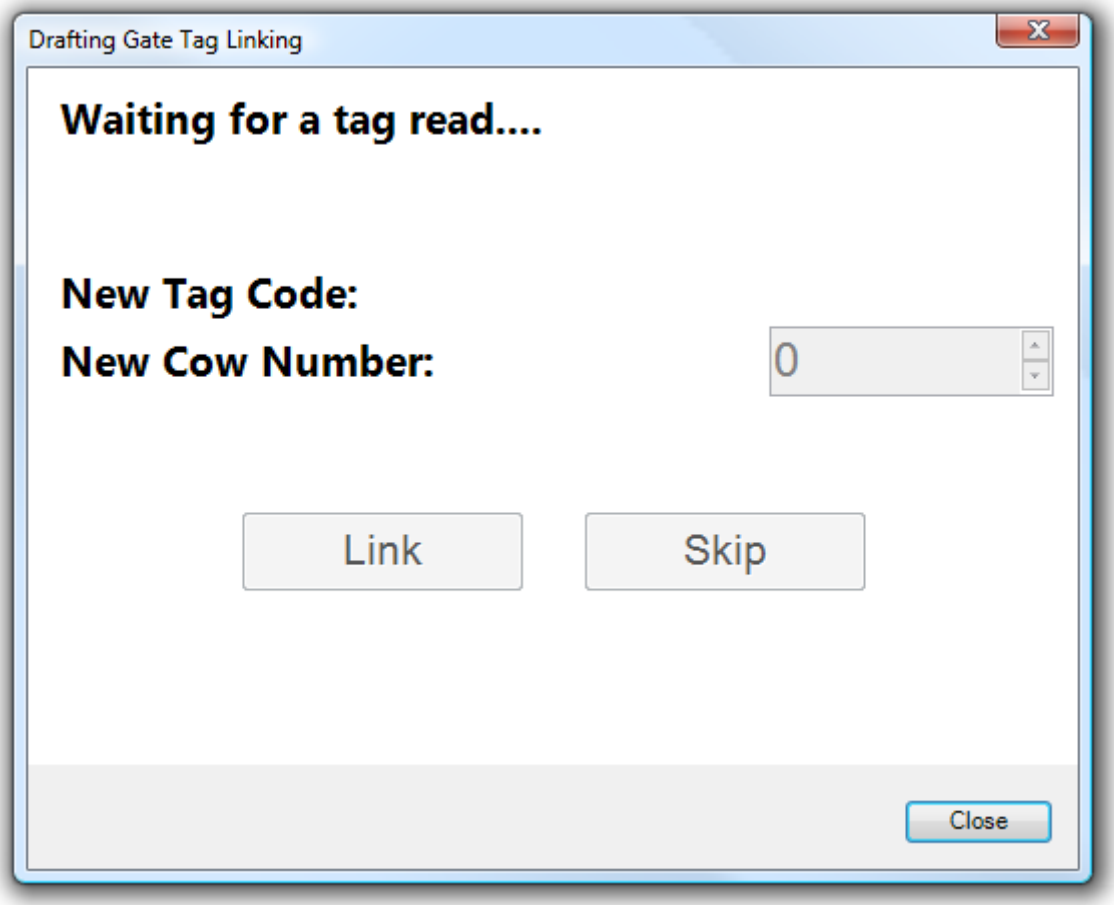
27.2 Micro Marque 4 Tools

ATL Cowculator includes tools to aid in linking animals used in conjunction with the ATL Micro Marque 4 Drafting Gate System. These include;

- Drafting Gate Tag Linker: This tool is used to link unlinked tags which are read by the drafting gate system.
- Drafting Gate Watcher: This tool is used to watch all tag codes being read by the Drafting Gate system.

27.2.1 The Drafting Gate Tag Linker

The Drafting Gate Tag Linker, as shown below, allows the user to wait for unlinked animals in the herd, then link them as they walk through the drafting gate system.



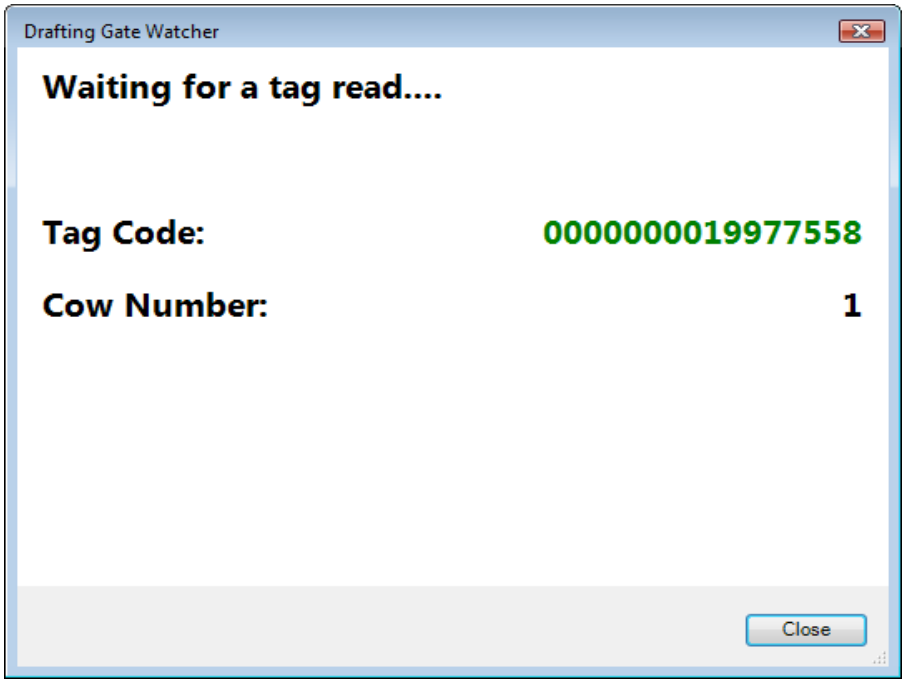
Here it is shown waiting for a tag to be read by the system. When a tag code is received, it will be displayed, the dialog will then wait for the user to enter an animal number. Any tags read whilst the user is entering a tag number will be remembered and displayed consecutively.

When an unlinked tag is received, the user can enter an animal number and click link. The animal will then be updated or created depending on whether it exists or not in the herd. If the user wishes to ignore the tag they can click 'Skip' and the tag will be ignored.

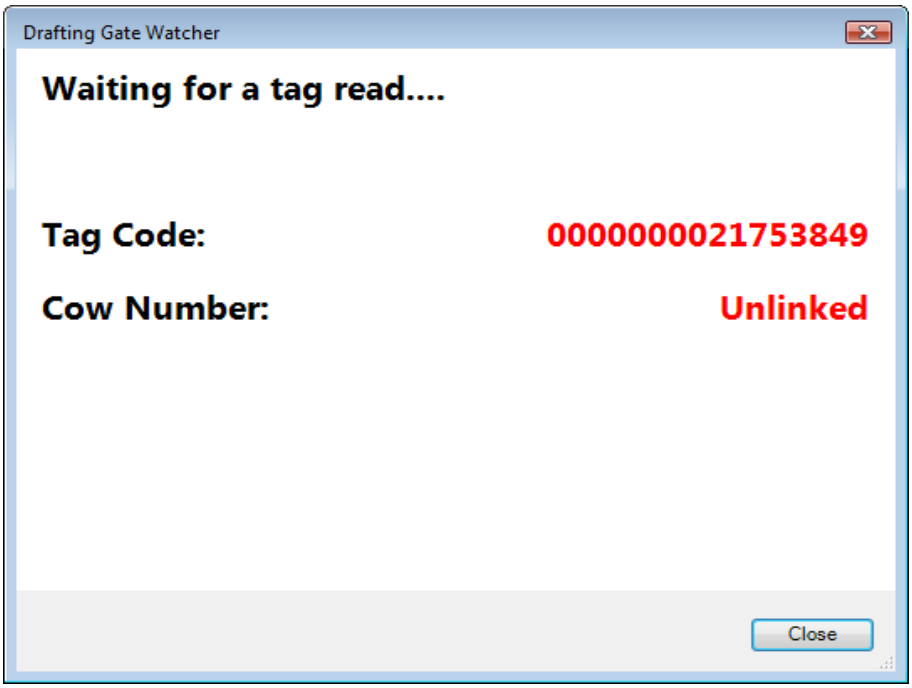
Please Note that when running in stand alone mode, the tag codes are only linked locally in ATL Cowculator and will need to be sent to the ATL Micro Marque 4 before they will be functional, this can be accomplished by sending to ATL Micro Marque 4.

27.2.2 The Drafting Gate Watcher

The Drafting Gate Watcher is a tool used to view all tags passing through the drafting gate system. It will wait for a tag read, then display the tag code. If the tag is linked to a animal it will also display the animal's number.



Above shows a linked animal's tag code and number; below an unlinked tag is displayed;



The Manual Drafting Control allows the user to control the drafting gate manually, so that it will ignore all tag codes from ear tags. The dialog is shown below;

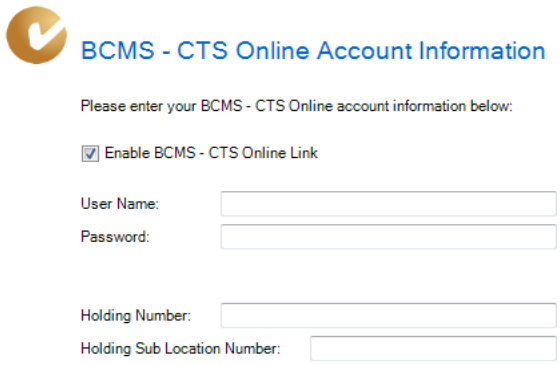
Here the user has the choice of making all animals go one of five ways or to return control to normal drafting. Clicking any of the buttons will send the changes to the ATL Micro Marque 4 with immediate effect.

28 BCMS – CTS Online Link

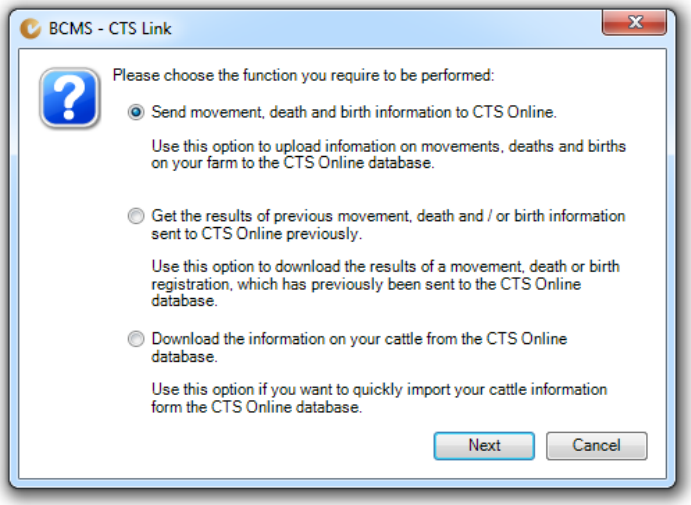
The British Cattle Movement Service (BCMS) Cattle Tracking Service (CTS Online) has been intergrated into the ATL Cowculator program. This allows the user to download information on their cattle using the "Get Cattle On Holding" request, and send information on births, deaths and movements to BCMS.

To use the link it must be enabled in the settings (Click Settings, the ATL Cowculator from the menu), if the settings page is not visible, then the product key for the program dose not include the BCMS – CTS Online link. In this case, please contact ATL for a new product key.

The settings page is shown below;



In order to use the link the user name, password and holding number must be entered for the farm. Once this data is entered the program can communicate with BCMS via CTS Online. To communicate with CTS Online click the "Tools" menu and select the "BCMS – CTS Online" item, this will show the BCMS – CTS Online menu form. The for is shown below;

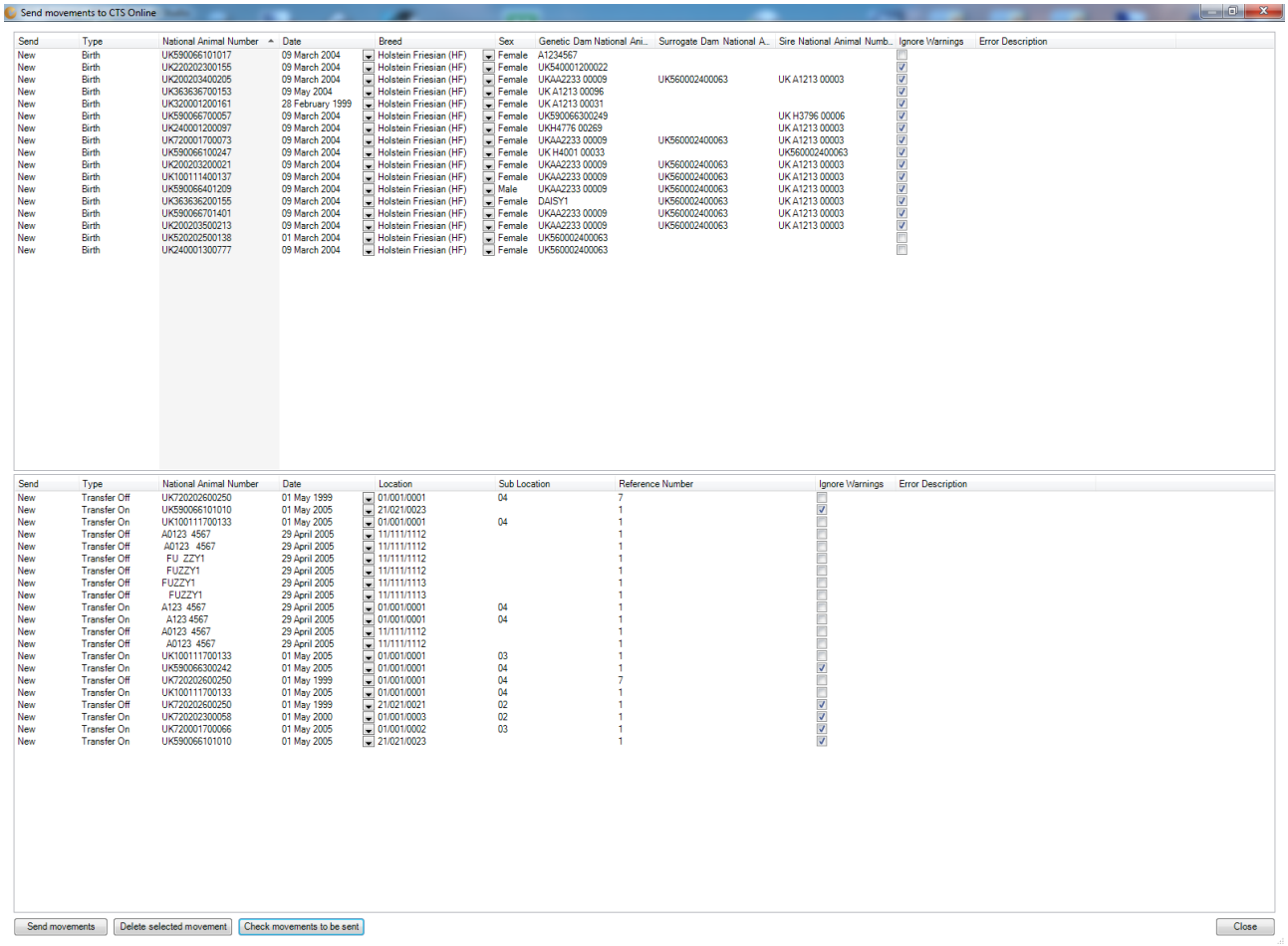


The link allows the user to perform 3 actions;

1. Send movement, death and birth information to CTS Online.
2. Get the results of previously transmitted information.
3. Download the information on your cattle from the CTS Database.

28.1 Sending movement, death and birth information to CTS Online

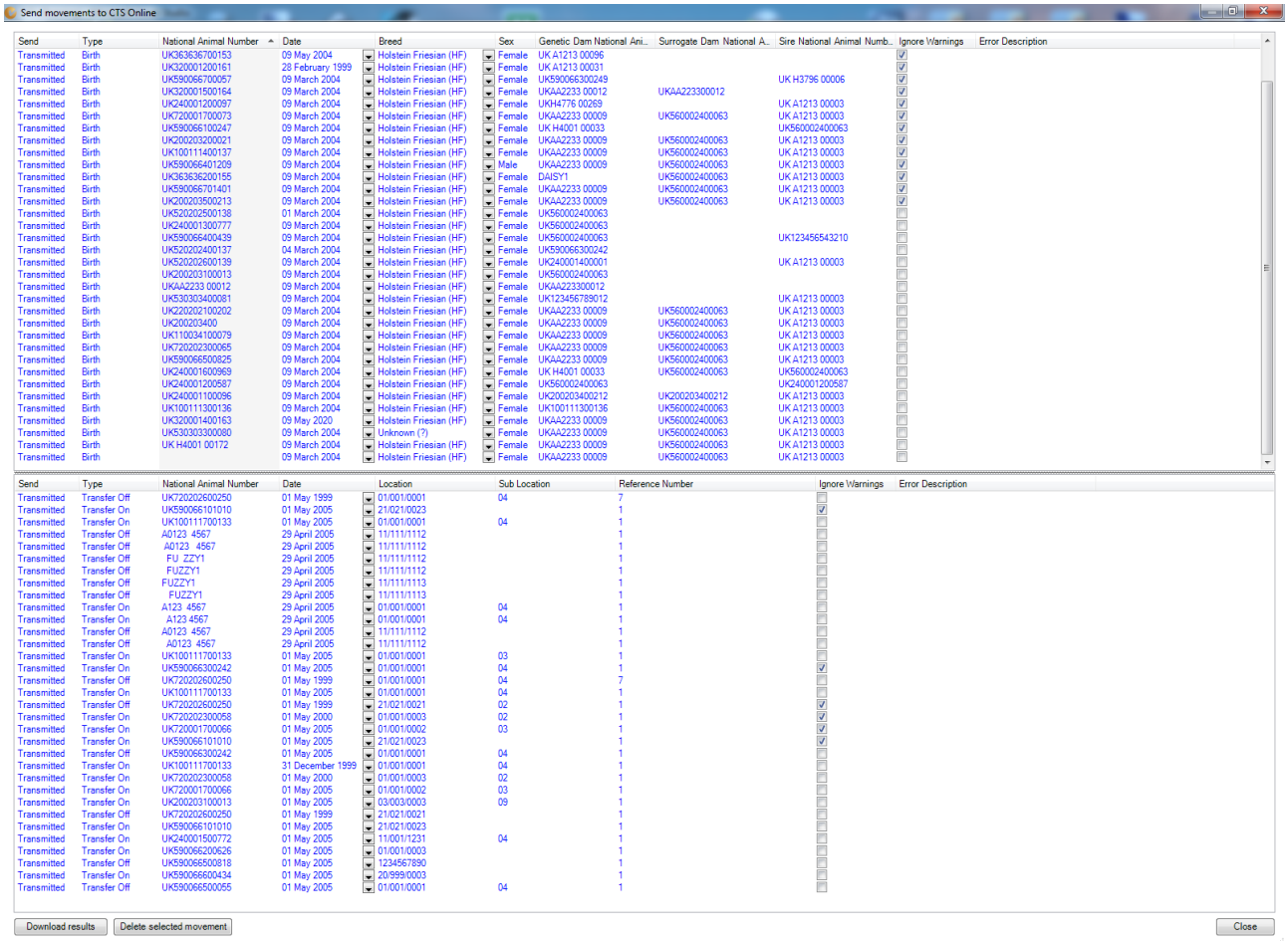
When the BCMS – CTS Online link is enabled the program will record births, deaths and movements in a register. This register is then viewable by selecting the “Send movement, death and birth information to CTS Online” radio button and clicking next on the BCMS – CTS Link menu form.



The image above shows a list of births and movements, the user can click the “Send Movements” button to send the data to BCMS, the user can also run pre-validation checks on the data with the “Check movements to be sent” button, this button allows the user to see any problems before the data is sent to BCMS. The “Delete selected movement” button allows the user to deleted any erroneous entries.

The list is split into two sections, the births section, and the movement section (which includes any deaths as well). The use can edit the information displayed here and it will be reflected in the animals information, just in case any mistakes have been made.

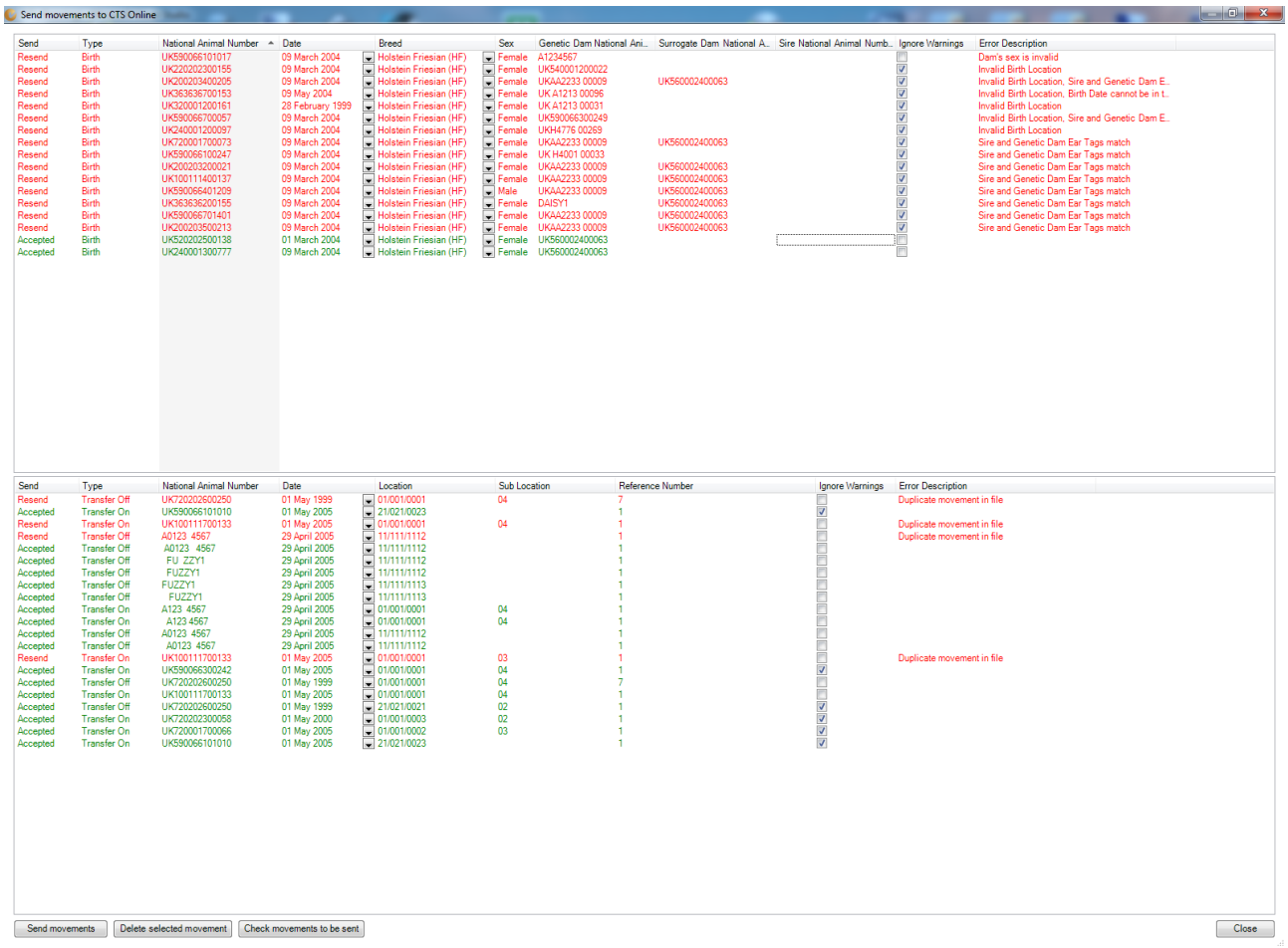
Once the user clicks “Send movements” the data will be sent to the BCMS – CTS Online web service, the items sent will then turn blue. This allows the user to see new items against items already sent. The program will validate any records to be sent, and if there are errors, it will warn the user and show the records in red, along with the reason at the end of the row. The screen showing the results of the send is shown below;



The entries will turn blue to indicate that they have been transmitted to BCMS. The user can click the “Download Results” button to download the results from BCMS, however please note that BCMS processes requests at midnight everyday, therefore the results may not be available until the next day.

28.2 Getting results from BCMS – CTS Online

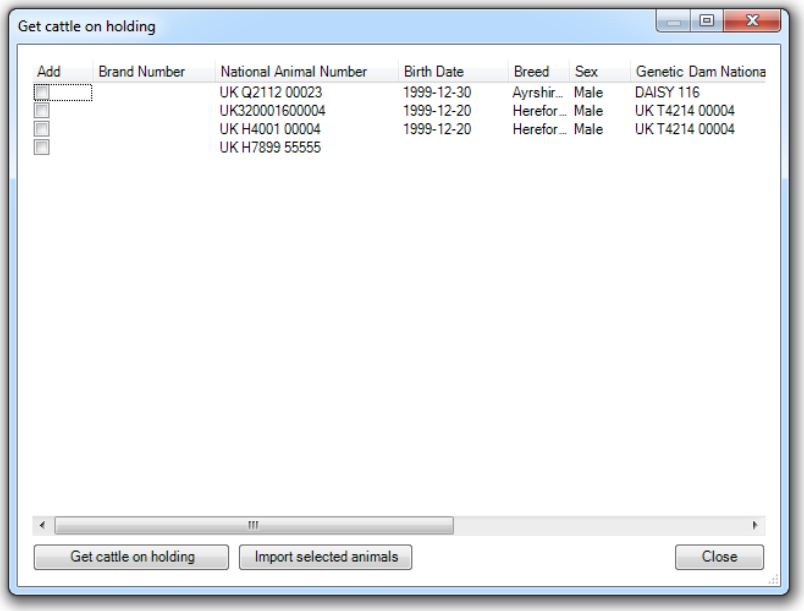
The Get results radio button allows the user to download the results of a previous transaction with BCMS. The screen will show rejected movements, births and deaths in read and accepted ones in green.



The image above shows the rejected results in red with their corresponding error in the “Error Description” column. This allows the user to correct the error and retransmit the information.

28.3 Getting the cattle on the holding

The program can download the cattle registered on the holding to help populate the database when setting up the program, the screen is shown below;



The user is able with the above screen to import data from the holding register into ATL Cowcualtor. Animals which have the Add column ticked are imported, with the brand number which is entered by the user.

This page is left blank for any notes you wish to make