COWCULATOR
SOFTWARE: INSTALL
& OPERATE

Cowculate Command Key Reference

Previous Screen/Quit:	**Esc (Escape)**
Cursor Up one line:	↑
Cursor Down one line:	↓
Cursor Left one column:	←
Cursor Right one column:	→
Page Scroll Up:	**Page Up**
Page Scroll Down:	**Page Down**
Next Page/Display:	**P**
Create New Cow Record:	**Insert**
Delete Selected Cow:	**Delete**
Go to Cow Number:	**G**
Display Selected Cow Information:	**I**
Group cows using Calving Date:	**Ctrl A**
M+ Ration calculation:	
Selected cows: Herd or group	**Ctrl R**
Undo last command:	**Ctrl U**
Delete (Erase):	
Selected cows: Herd or group	**Ctrl E**
Print selected cows: Herd or group	**Ctrl P**
Herd: display all cows:	**Alt F**
Display Cow Group (number):	**Alt G**
Milk Yield: cows higher than nn.n litres:	**Alt H**
Milk Yield: cows lower than nn.n litres:	**Alt L**
Warnings: cows with flag(s) set:	**Alt W**
A.I. Warning flag toggle:	**A**
VET Warning flag toggle:	**V**
MASTITIS Warning flag toggle:	**M**
DRY Warning flag toggle:	**D**
TEST Warning flag toggle:	**T**
BULL Warning flag toggle:	**B**
SLOW Warning flag toggle:	**S**
Help:	**F1**
Cow Group Information:	**F3**
Configuration Screen:	**F4**
Display Milk Yield v Feed Graph:	**F5**
Set Column Value:	
Selected cows: Herd or group	**F8**

INSTALLATION: Computers running MS-DOS:

Insert floppy disk (1) into the floppy disk drive (A).

If the C:> prompt is displayed on the screen, select floppy drive A:

> *Type A:*
> *Press ENTER (May be called Return or just have the arrow symbol)*
> *The prompt will change to A:>*
> *Type the word 'install'*
> *Press ENTER*

The Cowculator files will be copied from the floppy disk onto your computer's hard drive into a directory named *C:\ATL*. The installation program creates this directory automatically.

When the files have been copied from disk(1), the installation will pause and request disk(2):

> *Remove disk(1) from the drive and load disk(2)*
> *Press ENTER*

After the program files have been loaded you have the option to copy Demonstration Data from the disk. This data represents a fictitious herd of cows which allows the program to run and for you to explore its features without the need to enter your actual cow details. If you would like to load the demonstration data:

> *Type 'y' at the prompt. Otherwise type 'n' to skip the data.*

Replace disk(1) in drive (A) and turn to Page 2 Registration. *If you are re-installing or upgrading Cowculator, the demonstration data will overwrite existing actual data. So we advise not installing the demonstration data.*

INSTALLATION: Computers running Windows 95 or 98.

Insert disk(1) into floppy disk drive(A).

> *Left click on the 'Start' button: Bottom left on the Task Bar.*
> *On the pop-up Start Menu, left click 'Run'. The Run Window appears.*
> *Type 'A:\install' in the text entry window.*
> *Click 'OK'.*

The Cowculator installation screen appears with the message that the program files will be copied to directory C:\ATL on the hard drive(C).

> *Press 'y' when prompted to continue the installation.*

The Cowculator files will be copied from the floppy disk onto your computer's hard drive into a directory named *C:\ATL.* The installation program creates this directory automatically.

When the files have been copied from disk(1), the installation will pause and request disk(2):

Remove disk(1) from the drive and load disk(2)

Press ENTER

After the program files have been loaded you have the option to copy Demonstration Data from the disk. This data represents a fictitious herd of cows which allows the program to run and for you to explore its features without the need to enter your actual cow details. If you would like to load the demonstration data:

Type 'y' at the prompt. Otherwise type 'n' to skip the data.

Replace disk(1) in drive (A). *If you are re-installing or upgrading Cowculator, the demonstration data will overwrite existing actual data. So, we advise that the demonstration data is NOT loaded.*

REGISTRATION.

Before the Cowculator program can run using your herd data, its use has to be registered. After successful installation the first time it is run the Registration Menu will appear. Two items are required for registration:

The Registration Name and

The Registration Key number.

Both items may be found on the form which accompanied the disks and they must be typed *exactly* as shown-Capitals, lower case, punctuation and spaces are all important.

Type the Registration Name and press Enter.

Type the Registration Key number and press Enter.

If the information has been entered correctly it will be acknowledged and the full program will be registered and ready for use with your herd data.

To run the program using the Demonstration Data only, do not type either Registration name or key, simply press Enter. The program will then run in demonstration mode only.

RUNNING COWCULATOR: In MS-DOS

Run Cowculator from the DOS prompt by:

If necessary change to the C:> prompts by typing 'c:\' and pressing Enter.

Type 'cd atl' and press Enter.

RUNNING COWCULATOR: In Windows 95 or 98

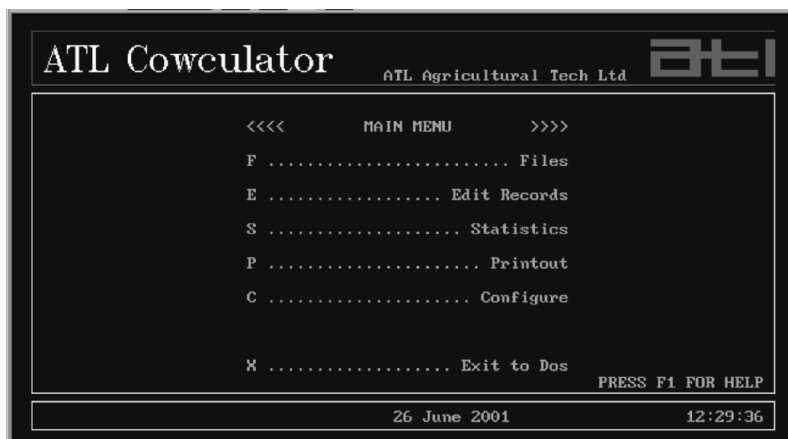*Double left click on the desktop Cowculator icon.*

The Main Menu

The Main Menu is displayed at startup and from here any of the installed modules may be invoked simply by typing the letter of the function required.

F: Files: *Choose this option to send herd data back and forth between your PC and the in-parlour and out-of-parlour controls. Data backup and Restore are also a files feature.*

E: Edit Records: *Display your herd data in fine detail including feed consumed, rations, milk yields and warning flags set. Data can be altered on a cow, group or herd basis.*

S: Statistics: *Display calving patterns, warning flags set, milk yields and variations as well as detailed feed information.*

```
ATL Cowculator          ATL Agricultural Tech Ltd     atl

           <<<<        MAIN MENU        >>>>
           F ...................... Files
           E ................. Edit Records
           S .................... Statistics
           P .................... Printout
           C .................... Configure

           X ................. Exit to Dos
                                        PRESS F1 FOR HELP

                        26 June 2001              12:29:36
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P: Print: *For a printed 'hard copy' of your herd details select either parlour, out-of-parlour or the identity list from the print menu.*

C: Configure: *Access the configuration at any time to check or alter your system and feeding regime essential parameters.*

CONFIGURE

The settings made during configuration, will determine how the program calculates animal rations and the data it will display on the Edit Screens.

Percentage Value (Milk Yield).

The yield from the current milking is compared to that from the last milking and any difference is reported as an increase (+) or decrease (-) percentage. A variation will be acceptable if it is within certain limits; the Percentage Value determines the upper and lower range of these limits. Should the variation fall outside the limits, it is reflected on the Edit Screen by either a (+) or (-) sign to indicate a yield above or below the limits.

The difference is calculated with reference to the installed system- Micro Mk2 and MicroMarque3 employ a comparison between the current yield and the last yield, *no matter when it was taken*; MicroMarque3S compares the current yield with its previous *direct* equivalent- that is morning milking is compared to morning milking and afternoon milking with afternoon milking- like with like.

Changing the Percentage Value.

Use the cursor control (arrow) keys to move the cursor to the

```
<<<<<<          C O N F I G U R A T I O N          >>>>>>

   Percentage Value   000   %    Warnings : AI VET MAS DRY TST BULL

                        Feed To Yield Data

   Feed Per Unit      0.00   Kgs      Max Feed Reduction  010   %

   Feed For Dry Cows  0.00   Kgs      Milkings Per Day    2

   M. Yield Source    CURRENT


   IP System  Marque 3s    OOP System  None       Printer Type EPSON

   Com Port   COM 1        Com Port    COM 2       Printer Port LPT 1

                     ** PRESS F1 FOR HELP **
```

existing percentage value.
Press the ENTER key. The value will be surrounded by brackets.
Type a new value in the range 0 to 100. A '0' will display +/- for all yields.
Press ENTER to store the new value.

Warning Flags.

Seven animal health warning flags are available:
Artificial Insemination (AI), Veterinary Attention (VET), Mastitis (MAS), Finished Lactation (DRY), Farmer to Check (TST),Bulling (BULL) and Slow Milker (SLO).

CONFIGURE

The settings made during configuration, will determine how the program calculates animal rations and the data it will display on the Edit Screens.

Percentage Value (Milk Yield).

The yield from the current milking is compared to that from the last milking and any difference is reported as an increase (+) or decrease (-) percentage. A variation will be acceptable if it is within certain limits; the Percentage Value determines the upper and lower range of these limits. Should the variation fall outside the limits, it is reflected on the Edit Screen by either a (+) or (-) sign to indicate a yield above or below the limits.

The difference is calculated with reference to the installed system- Micro Mk2 and MicroMarque3 employ a comparison between the current yield and the last yield, *no matter when it was taken*; MicroMarque3S compares the current yield with its previous *direct* equivalent- that is morning milking is compared to morning milking and afternoon milking with afternoon milking- like with like.

Changing the Percentage Value.
Use the cursor control (arrow) keys to move the cursor to the existing percentage value.
Press the ENTER key. The value will be surrounded by brackets.
Type a new value in the range 0 to 100. A '0' will display +/- for all yields.
Press ENTER to store the new value.

Warning Flags.

Seven animal health warning flags are available:
Artificial Insemination (AI), Veterinary Attention (VET), Mastitis (MAS), Finished Lactation (DRY), Farmer to Check (TST), Bulling (BULL) and Slow Milker (SLO).

If a warning code is showing on the Configuration Screen then it is enabled on the edit screens. Cows with flags set may be listed by pressing the Alt+W key combination.

Enable/Disable Warning Flag Display
On the Configuration Screen, use the cursor control (arrow) keys to position the cursor on the first warning- usually 'AI'.
Type the first letter of the warning to be enabled/disabled. For example, type 'd' to enable/disable 'DRY'. This is a toggle action; if


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<<<<<<                    C O N F I G U R A T I O N                      >>>>>>


      Percentage Value   000   %        Warnings :  AI  VET  MAS  DRY  TST  BULL

                                 Feed To Yield Data

      Feed Per Unit       0.00   Kgs           Max Feed Reduction  010   %

      Feed For Dry Cows   0.00   Kgs           Milkings Per Day    2

      M. Yield Source     CURRENT


   IP System   Marque 3s     OOP System   None              Printer Type  EPSON

   Com Port    COM 1         Com Port     COM 2             Printer Port  LPT 1


                          ** PRESS F1 FOR HELP **
```

the warning is displayed, typing its initial character will hide (disable) it. If it is hidden, type its initial character to display it.

Leaving the Configuration Screen automatically stores the setting with changes immediately reflected on the Edit Screen.

Feed Per Unit.

This figure represents a single portion of feed- the smallest amount that the feeders have been calibrated to dispense as a single ration- and is used in the 'feed-to-yield' calculations.

Changing the Feed Per Unit value.
Using the cursor control (arrow) keys, position the cursor on the Feed Per Unit value.
Press Enter. The value will be bracketed; [0.50] for example.
Key the new value in the range 0.1 to 10.0. You must enter the decimal point if fractional values are required, so if (say) a value of 0.75 is required, key it exactly as it is written.
Press Enter to store the new value.

Please note that all feed rations must be exact multiples of the feed per unit value and also divisible by the number of milking per day.

Max. Feed Reduction.

Functions only as part of a feed to yield regime.
This value represents, as a percentage of the existing ration, the amount by which the ration

may be reduced in a single step. Keep the value low initially until it is possible to assess the effect on the cows of a ration reduction.

Changing the Max. Feed Reduction value.
Using the cursor (arrow) control keys, position the cursor on the Max. Feed reduction value.
Press Enter. The value will be bracketed.
Key the new value in the range 1 to 100. Decimal values are not allowed. No need to key leading zeros.

Feed For Dry Cows.
Represents the standard ration that a dry cow will receive in the parlour. It must be a multiple of the Feed Per Unit value and divisible by the Number of Milkings per Day.

Changing the Feed For Dry Cows value.
Using the cursor (arrow) control keys, position the cursor on the Feed For Dry Cows item.
Press Enter. The value will be bracketed.
Key the new value in kilograms in the range 0.0 to 10.0. Enter the decimal point if necessary.
Press Enter to store the new value.

Milkings Per Day.
Set the number of milkings per day- either 2 or 3 by:
Using the cursor (arrow) keys to select the item.
Press Enter. The existing value will be bracketed.
Key the new number- 2 or 3.
Press Enter to store the new value.

M. Yield Source.
For Mark 2 and MicroLite systems set this to 'AVERAGE'. For Marque3 including 'S' types, set this to 'CURRENT'.

Use the cursor (arrow) keys to position the cursor on the current setting.
Press Enter to toggle between the two available options.

System Setup.
The lower part of the Configuration Screen is concerned with the computer inputs from the In-Parlour feeding and Out Of Parlour feeding systems and the output to the printer. Each item is set up by:
Using the cursor (arrow) keys to position the cursor on the item.
Pressing Enter until the desired setting appears.

Moving the cursor to another item or leaving the Configuration screen will save the displayed settings.

Statistics Display.
Press 'S' on the Main Menu to display the Herd Statistics. Data includes the total number of cows in memory, a breakdown of the ration values and milk yields together with a listing of the Warning Flags that are set and the number of cows against each.

Averages are provided for ration and milk yield and totals displayed for both feed and yield.

The Edit Records Screens.

Typing 'E' from the Main Menu will open the Edit Records Screens. There are 6 screens available:

> In-Parlour: *Details of total feed, days before A.I. and warnings.*
> Milk Recordings: *Up to three yields and differences where applicable.*
> Out Of Parlour Feed: *Rations for both A and B out of parlour feeders together with feed remaining.*
> Out Of Parlour Boost: *Percentage increase in ration spread over number of days.*
> Auto-ID Tag Number: *Full 16-digit electronic tag numbers.*
> Date Information: *Calving data, number of lactations and days into lactation.*

COW Num	Gr	DAILY FEED IPFd	OPFa	OPFb	MILK Daily	Total	IN-PARLOUR FdTot	Due	Warnings	Mas
0001	00	00.0	00.0	00.0	00.0	00600	00000		S	
0002	02	00.0	00.0	00.0	00.0	02198	00000		D	
0003	00	00.0	00.0	00.0	47.2-	00000	00000			
0004	01	00.0	00.0	00.0	37.6-	03210	00000			
0005	01	00.0	00.0	00.0	00.0	01905	00000		M	05
0006	01	00.0	00.0	00.0	25.6-	02332	00000			
0007	00	00.0	00.0	00.0	00.0	00159	00000			
0008	13	00.0	00.0	00.0	23.0-	00000	00000			
0009	13	00.0	00.0	00.0	23.8-	00000	00000			
0010	01	00.0	00.0	00.0	37.2-	01554	00000			
0011	00	00.0	00.0	00.0	00.0	00098	00000		A	
0012	01	00.0	00.0	00.0	17.0+	02890	00000			
0013	00	00.0	00.0	00.0	00.0	00098	00000		A	
0014	13	00.0	00.0	00.0	36.8+	02311	00000			
0015	13	00.0	00.0	00.0	07.4-	02582	00000			
0016	01	00.0	00.0	00.0	19.0-	03758	00000			
0017	01	00.0	00.0	00.0	20.4-	00000	00000			
0018	02	00.0	00.0	00.0	34.6-	00897	00000			
0019	01	00.0	00.0	00.0	32.0+	02160	00000			
0020	02	00.0	00.0	00.0	40.4+	02349	00000			
Tot- 323		Tot- 0000	Tot- 0000	Tot- 0000	Av-- 15.1				ALL COWS DISPLAYED	

The edit screen last accessed will open when Edit is invoked. To move between the 6 screens, press 'P'.

Each of the 6 Edit Screens displays the same herd and cow data in the left hand columns:

> Cow Number: *In the range 1 through 9999. This is the freeze brand or primary ear tag number not the electronic ear tag number if fitted.*
> Group: *The Management Group (0 through 15) to which the cow has been allocated.*
> IPFd: Daily *In-Parlour Ration as multiples of the Feed Per Unit value on the Configuration Menu (kgs).*
> OPFa: *Out Of Parlour Feed 'a' ration if applicable (kgs).*
> OPFb: *Out Of Parlour Feed 'b' ration if applicable (kgs).*
> Daily Milk Yield: *Total yield in litres from all milkings- either 2 or 3. The 24 hour period starts with the first milking after 12noon on the first day.*
> Total Milk Yield: *For this lactation (litres)..*

The In-Parlour Edit Screen.

The right hand panel of this screen shows:

> FdTOT: *Total feed consumed to date (kgs).*
> DUE: *The number of days due before A.I.*
> WARNINGS: *Warning flags set, if any. These are represented by a single letter:*   A: *A.I.*
> V: *Veterinary attention*
> M: *Mastitis*
> D: *Dry*
> T: *Test*
> B: *Bulling*
> S: *Slow milker*

If the mastitis flag is set, this figure represents the days remaining before the milk may be used, assuming the proper tests have been carried out. The value is decremented by the system clock.

COW Num	Gr	DAILY FEED IPFd	OPFa	OPFb	MILK Daily	Total	MILK RECORDINGS Rec1	Rec2	Rec3	Diff
0001	00	00.0	00.0	00.0	00.0	00600	00.0	00.0	00.0	
0002	02	00.0	00.0	00.0	00.0	02198	00.0	00.0	00.0	
0003	00	00.0	00.0	00.0	47.2-	00000	23.0	24.8	22.4	-00.6
0004	01	00.0	00.0	00.0	37.6-	03210	20.2	18.6	19.0	-01.2
0005	01	00.0	00.0	00.0	00.0	01905	00.0	00.0	00.0	
0006	01	00.0	00.0	00.0	25.6-	02332	15.0	11.8	13.8	-01.2
0007	00	00.0	00.0	00.0	00.0	00159	00.0	00.0	00.0	
0008	13	00.0	00.0	00.0	23.0-	00000	13.6	12.0	11.0	-02.6
0009	13	00.0	00.0	00.0	23.8-	00000	14.2	09.8	14.0	-00.2
0010	01	00.0	00.0	00.0	37.2-	01554	22.2	17.2	20.0	-02.2
0011	00	00.0	00.0	00.0	00.0	00098	00.0	00.0	00.0	
0012	01	00.0	00.0	00.0	17.0+	02890	10.6	05.6	11.4	+00.8
0013	00	00.0	00.0	00.0	00.0	00098	00.0	00.0	00.0	
0014	13	00.0	00.0	00.0	36.8+	02311	17.8	16.8	20.0	+02.2
0015	13	00.0	00.0	00.0	07.4-	02582	05.0	02.6	04.8	-00.2
0016	01	00.0	00.0	00.0	19.0-	03758	18.2	08.6	10.4	-07.8
0017	01	00.0	00.0	00.0	20.4-	00000	13.6	07.8	12.6	-01.0
0018	02	00.0	00.0	00.0	34.6-	00897	21.4	15.0	19.6	-01.8
0019	01	00.0	00.0	00.0	32.0+	02160	18.2	12.8	19.2	+01.0
0020	02	00.0	00.0	00.0	40.4+	02349	00.0	19.6	20.8	+20.8
Tot- 323		Tot- 0000	Tot- 0000	Tot- 0000	Av-- 15.1				ALL COWS DISPLAYED	

The Milk Recording Edit Screen.

The four data columns associated with *automatic* milk recordings are:

> Rec1: *The last but **two** milk yields.*
> Rec2: *The last but **one** milk yields.*
> Rec3: *Represents the latest milk yield values.*
> Diff: *A value will only appear in this column if the yield falls outside the Percentage Value set on the Configuration Screen. Both increases (+) and decreases (-) are displayed.*

With every new upload (from parlour to PC), data is shifted across the three columns with that in Rec1 being discarded. The upload time is important to maintain a current 'picture'. Daily milk yields are calculated by the parlour control at 11.00am and will generally include the morning milking. This is added to the previous day's afternoon milking(s), so the daily total encompasses the 24 hours starting from 11.00am on the previous day. For the information shown in Cowculator to be meaningful the upload (from parlour to PC) must occur *after 11.00am but*

before the afternoon milking. If this is the case, the figure in the Daily Total column will equate to the sum of Rec2 plus Rec3 for two milkings each day, or Rec1 plus Rec2 plus Rec3 for three milkings per day. If the columns do not add up then either the system clock is wrong or the upload has occurred at a different time. The upload can be performed at any time but the 'Rec' columns may not always add up although the data is still valid and correct.

The Out Of Parlour (OOP) Feed Edit Screen.

If an Out Of Parlour Feeding system is not present, these figures will be set to zero.

LefA: *Weight (kgs) remaining of feedstuff 'A' in this 24 hour period.*

TotA: *Cumulative total for feedstuff 'A' ration (kgs) for this cow.*

LefB: *Weight (kgs) remaining of feedstuff 'B' in this 24 hour period.*

TotB: *Cumulative total for feedstuff 'B' ration (kgs) for this cow.*

COW Num	Gr	DAILY FEED IPFd	OPFa	OPFb	MILK Daily	Total	OOP FEED LefA	TotA	LefB	TotB
0001	00	00.0	00.0	00.0	00.0	00600	00.0	0000	00.0	0000
0002	02	00.0	00.0	00.0	00.0	02198	00.0	0000	00.0	0000
0003	00	00.0	00.0	00.0	47.2-	00000	00.0	0000	00.0	0000
0004	01	00.0	00.0	00.0	37.6-	03210	00.0	0000	00.0	0000
0005	01	00.0	00.0	00.0	00.0	01905	00.0	0000	00.0	0000
0006	01	00.0	00.0	00.0	25.6-	02332	00.0	0000	00.0	0000
0007	00	00.0	00.0	00.0	00.0	00159	00.0	0000	00.0	0000
0008	13	00.0	00.0	00.0	23.0-	00000	00.0	0000	00.0	0000
0009	13	00.0	00.0	00.0	23.8-	00000	00.0	0000	00.0	0000
0010	01	00.0	00.0	00.0	37.2-	01554	00.0	0000	00.0	0000
0011	00	00.0	00.0	00.0	00.0	00098	00.0	0000	00.0	0000
0012	01	00.0	00.0	00.0	17.0+	02890	00.0	0000	00.0	0000
0013	00	00.0	00.0	00.0	00.0	00098	00.0	0000	00.0	0000
0014	13	00.0	00.0	00.0	36.8+	02311	00.0	0000	00.0	0000
0015	13	00.0	00.0	00.0	07.4-	02582	00.0	0000	00.0	0000
0016	01	00.0	00.0	00.0	19.0-	03758	00.0	0000	00.0	0000
0017	01	00.0	00.0	00.0	20.4-	00000	00.0	0000	00.0	0000
0018	02	00.0	00.0	00.0	34.6-	00897	00.0	0000	00.0	0000
0019	01	00.0	00.0	00.0	32.0+	02160	00.0	0000	00.0	0000
0020	02	00.0	00.0	00.0	40.4+	02349	00.0	0000	00.0	0000
Tot- 323		Tot- 0000	Tot- 0000	Tot- 0000	Av-- 15.1				ALL COWS DISPLAYED	

The OOP (Out Of Parlour) Feed Boost Edit Screen.

A powerful feature of the ATL Meridian Out Of Parlour Feeding System, is the ration boost facility for effective 'steaming up'.

The value in the 'Adjst' column represents an *increase* in ration to be *added* to the existing ration over the number of days in the 'Days' column.

Edit on this screen to take effect at the start of the next out of parlour cycle.

COW Num	Gr	DAILY FEED IPFd	OPFa	OPFb	MILK Daily	Total	OOP FEED BOOST & STATS Adjst	Days	Vis	Time	Avr
0001	00	00.0	00.0	00.0	00.0	00600	00.0	000	000	0000	000
0002	02	00.0	00.0	00.0	00.0	02198	00.0	000	000	0000	000
0003	00	00.0	00.0	00.0	47.2-	00000	00.0	000	000	0000	000
0004	01	00.0	00.0	00.0	37.6-	03210	00.0	000	000	0000	000
0005	01	00.0	00.0	00.0	00.0	01905	00.0	000	000	0000	000
0006	01	00.0	00.0	00.0	25.6-	02332	00.0	000	000	0000	000
0007	00	00.0	00.0	00.0	00.0	00159	00.0	000	000	0000	000
0008	13	00.0	00.0	00.0	23.0-	00000	00.0	000	000	0000	000
0009	13	00.0	00.0	00.0	23.8-	00000	00.0	000	000	0000	000
0010	01	00.0	00.0	00.0	37.2-	01554	00.0	000	000	0000	000
0011	00	00.0	00.0	00.0	00.0	00098	00.0	000	000	0000	000
0012	01	00.0	00.0	00.0	17.0+	02890	00.0	000	000	0000	000
0013	00	00.0	00.0	00.0	00.0	00098	00.0	000	000	0000	000
0014	13	00.0	00.0	00.0	36.8+	02311	00.0	000	000	0000	000
0015	13	00.0	00.0	00.0	07.4-	02582	00.0	000	000	0000	000
0016	01	00.0	00.0	00.0	19.0-	03758	00.0	000	000	0000	000
0017	01	00.0	00.0	00.0	20.4-	00000	00.0	000	000	0000	000
0018	02	00.0	00.0	00.0	34.6-	00897	00.0	000	000	0000	000
0019	01	00.0	00.0	00.0	32.0+	02160	00.0	000	000	0000	000
0020	02	00.0	00.0	00.0	40.4+	02349	00.0	000	000	0000	000
Tot- 323		Tot- 0000	Tot- 0000	Tot- 0000	Av-- 15.1				ALL COWS DISPLAYED		

The Electronic Identity Edit Screen.

TIRIS electronic ear tag numbers are displayed on this screen. The tag numbers may be manually altered.

```
COW          ┌─ DAILY FEED ─┐   ┌─ MILK ─┐    ┌──── ELECTRONIC IDENTITY ────┐
Num     Gr   IPFd   OPFa   OPFb   Daily  Total

0001    00   00.0   00.0   00.0   00.0   00600              0000000000000000
0002    02   00.0   00.0   00.0   00.0   02198              0000000000000000
0003    00   00.0   00.0   00.0   47.2-  00000              0000000000000000
0004    01   00.0   00.0   00.0   37.6-  03210              0000000000000000
0005    01   00.0   00.0   00.0   00.0   01905              0000000000000000
0006    01   00.0   00.0   00.0   25.6-  02332              0000000000000000
0007    00   00.0   00.0   00.0   00.0   00159              0000000000000000
0008    13   00.0   00.0   00.0   23.0-  00000              0000000000000000
0009    13   00.0   00.0   00.0   23.8-  00000              0000000000000000
0010    01   00.0   00.0   00.0   37.2-  01554              0000000000000000
0011    00   00.0   00.0   00.0   00.0   00098              0000000000000000
0012    01   00.0   00.0   00.0   17.0+  02890              0000000000000000
0013    00   00.0   00.0   00.0   00.0   00098              0000000000000000
0014    13   00.0   00.0   00.0   36.8+  02311              0000000000000000
0015    13   00.0   00.0   00.0   07.4-  02582              0000000000000000
0016    01   00.0   00.0   00.0   19.0-  03758              0000000000000000
0017    01   00.0   00.0   00.0   20.4-  00000              0000000000000000
0018    02   00.0   00.0   00.0   34.6-  00897              0000000000000000
0019    01   00.0   00.0   00.0   32.0+  02160              0000000000000000
0020    02   00.0   00.0   00.0   40.4+  02349              0000000000000000
Tot-         Tot-   Tot-   Tot-   Av--
323          0000   0000   0000   15.1                      ALL COWS DISPLAYED
```

The Date Information Edit Screen.

The three date columns are:

Calv Date: *The last calving date.*
Lact: *The current lactation number.*
Days: *The number of days into this current lactation.*

```
COW          ┌─ DAILY FEED ─┐   ┌─ MILK ─┐    ┌─── DATE  INFORMATION ───┐
Num     Gr   IPFd   OPFa   OPFb   Daily  Total  Calv Date  Lact  Days

0001    00   00.0   00.0   00.0   00.0   00600  00/00/0000  00   000
0002    02   00.0   00.0   00.0   00.0   02198  00/00/0000  00   000
0003    00   00.0   00.0   00.0   47.2-  00000  00/00/0000  00   000
0004    01   00.0   00.0   00.0   37.6-  03210  00/00/0000  00   000
0005    01   00.0   00.0   00.0   00.0   01905  00/00/0000  00   000
0006    01   00.0   00.0   00.0   25.6-  02332  00/00/0000  00   000
0007    00   00.0   00.0   00.0   00.0   00159  00/00/0000  00   000
0008    13   00.0   00.0   00.0   23.0-  00000  00/00/0000  00   000
0009    13   00.0   00.0   00.0   23.8-  00000  00/00/0000  00   000
0010    01   00.0   00.0   00.0   37.2-  01554  00/00/0000  00   000
0011    00   00.0   00.0   00.0   00.0   00098  00/00/0000  00   000
0012    01   00.0   00.0   00.0   17.0+  02890  00/00/0000  00   000
0013    00   00.0   00.0   00.0   00.0   00098  00/00/0000  00   000
0014    13   00.0   00.0   00.0   36.8+  02311  00/00/0000  00   000
0015    13   00.0   00.0   00.0   07.4-  02582  00/00/0000  00   000
0016    01   00.0   00.0   00.0   19.0-  03758  00/00/0000  00   000
0017    01   00.0   00.0   00.0   20.4-  00000  00/00/0000  00   000
0018    02   00.0   00.0   00.0   34.6-  00897  00/00/0000  00   000
0019    01   00.0   00.0   00.0   32.0+  02160  00/00/0000  00   000
0020    02   00.0   00.0   00.0   40.4+  02349  00/00/0000  00   000
Tot-         Tot-   Tot-   Tot-   Av--
323          0000   0000   0000   15.1                      ALL COWS DISPLAYED
```

THE EDIT SCREEN:

The following functions are available whilst the Edit screen is displayed. Most functions or entries can be abandoned by pressing Esc(ape).

Creating a New Cow Record: (Insert Key)

Create a new cow record with the cursor positioned in any column. Proceed as follows:

Press the Insert key (May be labelled INS on your PC keyboard). The message 'Enter New Cow number' appears at bottom left of the screen.
Type the new cow number and press Enter. No need to enter leading zeros. If the cow already exists, the program will bleep and the
message 'Cow already exists' will be displayed. Key Esc(ape) to clear the entry.

If the entry is valid the new cow record is created and placed in numerical sequence on the display. The cursor moves to the ration column (IPFd: In Parlour Feed) awaiting a ration value.

Press Enter. The ration will be surrounded by brackets: [0000]
Key a ration value which must be a multiple of the 'Feed per Unit' value on the Configuration Screen, and press Enter. If the ration is not a complete multiple and divisible by the number of milkings, Cowculator will round down and display the value.

In the same way values may be entered for Out-Of-Parlour rations (OPFa=Feeder A and OPFb=Feeder B) if you have an out of parlour feeding installation.

If you are using Management Groups, enter the Group Number by positioning the cursor on the Group column:

Press Enter. The Group will be surrounded by brackets: [00]
Key the Group Number and press Enter. No need to use leading zeros. Invalid group numbers are ignored and the cursor remains in position awaiting a valid group.

Deleting a Cow (Delete Key)

Deletion removes all data relating to a cow and cannot be restored. Use with care. Position the cursor on the row containing the cow (cursor beneath data):

Press the Delete key (maybe marked Del on your keyboard).The message 'Delete cow (number): (Y/N)' appears bottom left on the screen.
Type 'Y' to delete the cow record- the cow data is also removed from the display- or 'N' to abandon the deletion.

Finding a Cow Record: (Press 'G')

To locate a cow record from any of the Edit screens:

Press key G. The message 'Enter Cow Number' appears bottom left on the screen. A message requesting the cow number is displayed.

Key the cow number. Zero is not accepted. If the record does not exist, Cowculator will find the next highest record. The display is refreshed with the selected cow record as the first entry.

Changing Values on the Edit Screens.

Many of the values stored in cow records may be changed. The procedure is:

Use the arrow (cursor) keys to position the cursor under the item to be changed.
Press Enter. The item is surrounded by square brackets: [0040] for example.
Key the new value and press Enter. The brackets will disappear and the new value is stored.

Changing Values by Column.

The ration for an entire group of cows may be changed by setting the column to a specific value. All of the selected cows will then have the same ration. This function may be carried out on the entire herd but is usually applied to groups. Display the cow group:

Press and hold down the 'Alt' key; press key 'G' without releasing Alt. The message 'Enter Group Number' appears bottom left on the screen.
Type in the group number and press Enter. No need to use leading zeros. All of the cows in the selected group will be displayed.
Using the cursor (arrow) keys, position the cursor on the column to be changed.
Press key F8. The prompt, bottom left on the screen, will show the name of the column selected with open brackets ready for a value to be entered.
Type the new value and press Enter.
The new value will be loaded to all of the cow records in the selected group and the screen display will be updated to reflect the change.

Displaying Cow Information. (Press 'I')

A comprehensive list of data relating to the cow selected by the cursor is displayed by pressing 'I'. From any Edit or Group screen:

Use the cursor (arrow) keys to select the cow.
Press key I. The data for that cow (Cow Information) will be displayed. Fields 'Cow name' and 'Calving Date' may be changed on this screen.
Press Esc(ape) to return to the Edit or Group screen.

```
<<<<<<              C O W   I N F O R M A T I O N              >>>>>>

Cow Number   :   0006        Cow Name    :

Group        :   01

Lact IPF     :   00000
Lact OPF a   :   00000
Lact OPF b   :   00000
Lact Total   :   00000 Kg


Calving Date :   00/00/0000     Days in Milk :    000

Lactation No :   00
                                            Milk Yields
                           Rec1   Rec2   Rec3   Diff   Daily   Lactatn
                           15.0   11.8   13.8   -01.2   25.6   02332.8
```

Setting or Clearing Warning Flags.

The days due to insemination and all of the warning flags are set or cleared from the '*DUE*' column. The flags function as a toggle; if a warning is set, the leading character- for example, 'V'=Vet- will be displayed. Typing the character again will clear the warning and the character will disappear.

Use the cursor (arrow) keys to select the cow and then the 'DUE' column.
Key the leading character (A/V/M/D/T/B/S) to set or clear the warning
This is a toggle action; typing the same character again will clear the flag.

If 'M' (Mastitis) is keyed, an option to set the number of days during which the milk should be discarded is displayed.

Proceed as follows:

Use the cursor (arrow) keys to select the cow and then the 'DUE' column.
Key the character 'M'.
Enter the day count value in the range 0-99. This value is automatically decremented by the clock in your parlour control.

Similarly, the days due to artificial insemination (AI) may be entered:

Use the cursor (arrow) keys to select the cow and then the 'DUE' column.
Key the character 'A'. Brackets will appear in the 'DUE' column.
Key the new value in the range 0-99

Working with Groups:

Each cow in a herd may be allocated to a Management Group. This facility allows cows that share similar characteristics- same calving month, for example- to be grouped together, simplifying the displays and data entry. Sixteen groups are available:

Group 0: *Generally for dry cows.*
Groups 1..12: *Calving months where*
    Group 1=January, Group 2=February... etc.
Groups 13..15: *User groups defined by the farmer.*
    Used for 3-stage steaming up, for example.

Display the Group Arrangements and Totals (F3):

From any Edit screen:

Press function key F3. The display will show the group assignments and general totals.

To display the Cows Assigned to a Group (Alt+G):

For a complete listing of all the cows in a group together with their essential details:

Press and hold down the 'Alt' key and at the same time press key 'G'. The message 'Enter the Group' will appear bottom left on the screen.
Enter the group number; leading zeros are not required. Press Enter. All the cows in the selected group will be displayed together with their data. If the selected group does not contain cows, the message 'No cows in Group' will appear bottom right on the screen.

<<<<<<	GROUP	DESCRIPTIONS					>>>>>>
GRP NUM	NAME	M+	MIN FEED	MAX FEED	CONC RATE	AVRG MILK	TOT COW
00	Other Cows	10	01.0	10.0	0.50	06.0	73
01	January	10	01.0	10.0	0.50	19.7	167
02	Febuary	10	01.0	10.0	0.50	11.9	60
03	March	10	01.0	10.0	0.50	03.2	1
04	April	10	01.0	10.0	0.50	----	0
05	May	10	01.0	10.0	0.50	----	0
06	June	10	01.0	10.0	0.50	----	0
07	July	10	01.0	10.0	0.50	----	0
08	August	10	01.0	10.0	0.50	----	0
09	September	10	01.0	10.0	0.50	----	0
10	October	10	01.0	10.0	0.50	----	0
11	November	10	01.0	10.0	0.50	----	0
12	December	10	01.0	10.0	0.50	----	0
13	Group 13	10	01.0	10.0	0.50	18.9	22
14	Group 14	10	01.0	10.0	0.50	----	0
15	Group 15	10	01.0	10.0	0.50	----	0

COW Num	Gr	IPFd	OPFa	OPFb	Daily	Total	FdTot	Due	Warnings	Mas
		DAILY FEED			MILK			IN-PARLOUR		
0002	02	00.0	00.0	00.0	00.0	02198	00000		D	
0018	02	00.0	00.0	00.0	34.6-	00897	00000			
0020	02	00.0	00.0	00.0	40.4+	02349	00000			
0024	02	00.0	00.0	00.0	00.0	01644	00000		D	
0031	02	00.0	00.0	00.0	32.4+	02070	00000			
0032	02	00.0	00.0	00.0	00.0	01684	00000		V D	
0042	02	00.0	00.0	00.0	00.0	00794	00000		V D	
0044	02	00.0	00.0	00.0	22.4-	00000	00000			
0051	02	00.0	00.0	00.0	00.0	00574	00000			
0068	02	00.0	00.0	00.0	00.0	02520	00000		DT	
0089	02	00.0	00.0	00.0	06.0+	02803	00000			
0099	02	00.0	00.0	00.0	00.0	00363	00000		M	
0101	02	00.0	00.0	00.0	00.0	02420	00000		DT	
0102	02	00.0	00.0	00.0	03.0+	02056	00000			
0104	02	00.0	00.0	00.0	00.0	01915	00000			
0108	02	00.0	00.0	00.0	14.4+	00000	00000			
0119	02	00.0	00.0	00.0	00.0	01886	00000		D	
0121	02	00.0	00.0	00.0	00.0	00000	00000		D	
0122	02	00.0	00.0	00.0	00.0	02140	00000		D	
0128	02	00.0	00.0	00.0	18.6+	00000	00000			
Tot- 060		Tot- 0000	Tot- 0000	Tot- 0000	Av-- 11.9			GROUP 2 ... Febuary		

Deleting a Group or the Herd (Ctrl E).

The Group currently displayed or the entire herd if it is selected, can be deleted by:

> *Press and hold down the Ctrl key and at the same time press 'E' (Ctrl+E). The message 'Erase all selected cows (Y/N)?' will be displayed.*
> *Press 'Y' to delete the cows or 'N' to abandon.*
> *If you make a mistake, before doing anything else press Ctrl+U to retrieve the deleted data.*

Display Cows with Milk Yield Above/Below parameters (Alt+H/Alt+L)

Two functions are available to display cows with milk yields above or below a value entered on the keyboard. Use Alt+H to display cows higher that the value, or Alt+L for cows lower than the value. From any Edit screen:

> *Type Alt+H (for yields higher), or*
> *Type Alt+L (for yields lower). The message 'View cows with yield above (below) [00.0] litres appears.*
> *Key the required value and press Enter. The selected cows will be displayed.*

Display all cows with Warning Flags set (Alt+W)

From any Edit screen use the key combination Alt+W to display all of the cows that have enabled warning flags set. also shown are the days due for insemination and days before testing if a Mastitis flag is set.

> *Type Alt+W. All of the cows with enabled warning flags set will be displayed.*

Group Cows by Calving Date (Ctrl+A).

This function will run from any Edit screen and affects the entire herd. Each cow is placed in a group representing its calving date month derived from the calving date entry. Cows that do not have a calving date are placed in Group 0. The function will also affect cows that have been allocated to Groups 13, 14 and 15. If they have a valid calving date they will be placed in the appropriate group where month 01=January, 02=February and so on.

> *Type Ctrl+A. The message 'Group cows by calving date (Y/N):' appears bottom left on the screen.*
> *Press 'Y' to complete the function or 'N' to abandon.*

The screen will refresh with the new Group shown against each cow.

Ration Calculation Using the M+ Method

The parameters for using automatic ration calculation are entered from the Group Information screen. Four pieces of data are required and they may be different for each group. Press key F3 to display the group information screen.

M+: This is the Maintenance value which represents the amount of milk (in litres) that the cow would produce naturally *without* any additional protein, her nutrients supplied purely from grass, hay or silage. The actual value will vary depending upon calving date and position in the lactation cycle.

Min Feed: Is the *minimum* amount of cake that will be provided as a ration.

Max Feed: Represents the maximum ration that the calculation will be allowed to set against any cow. Min and Max Feed together are the span of allowable rations.

<<<<<	GROUP DESCRIPTIONS						>>>>>>
GRP NUM	NAME	M+	MIN FEED	MAX FEED	CONC RATE	AVRG MILK	TOT COW
00	Other Cows	10	01.0	10.0	0.50	06.0	73
01	January	10	01.0	10.0	0.50	19.7	167
02	Febuary	10	01.0	10.0	0.50	11.9	60
03	March	10	01.0	10.0	0.50	03.2	1
04	April	10	01.0	10.0	0.50	----	0
05	May	10	01.0	10.0	0.50	----	0
06	June	10	01.0	10.0	0.50	----	0
07	July	10	01.0	10.0	0.50	----	0
08	August	10	01.0	10.0	0.50	----	0
09	September	10	01.0	10.0	0.50	----	0
10	October	10	01.0	10.0	0.50	----	0
11	November	10	01.0	10.0	0.50	----	0
12	December	10	01.0	10.0	0.50	----	0
13	Group 13	10	01.0	10.0	0.50	18.9	22
14	Group 14	10	01.0	10.0	0.50	----	0
15	Group 15	10	01.0	10.0	0.50	----	0

M+ parameters are entered into the Group Information screen by positioning the cursor under the required entry, pressing Enter (brakets appear enclosing the item), typing the new value and pressing Enter again.

Conc Rate: Concentrate Rate is the amount of cake (in kilos) that is required to result in a milk yield *increase of 1 litre.* For 'bought in' feedstuff the value will be available from your supplier; 'homemix' requires a special analysis or an educated intuitive 'guess'!

The M+ facility operates on either In-Parlour or Out of Parlour rations *but not both at the same time.* However, rations already set for In- or Out of Parlour feeding are taken into account when the calculations are made. So, if In Parlour rations are being calculated using M+, any pre-set rations for Out of Parlour will be subtracted from the In Parlour result.

Given that the four parameters and a current daily milk yield have been entered, the program can calculate the *minimum* rations required to sustain that yield. Proceed as follows:

> *From any Edit screen press key F3. The Group Information screen will appear.*
>
> *Make the changes in M+, Min Feed, Max Feed and Conc Rate as required using the standard editing procedure (see previous page).*
>
> *Press Esc(ape) to return to the Edit screen.*
>
> *On the Edit screen, position the cursor on either the IPFd (In parlour feed ration) or OPFa (Out of parlour feed ration A) columns depending upon which calculation is required. The function will not calculate OPFb rations.*
>
> *Press and hold the Ctrl key and at the same time press the 'R' key (Ctrl+R). The message 'Calculate rations for all selected cows (Y/N):' appears bottom left.*

```
COW    LAST  ┌── DAILY FEED ──┐  ┌── MILK ──┐  ┌────── IN-PARLOUR ──────┐
Num    FEED  IPFd   OPFa   OPFb  Daily  Total  FdTot   Due   Warnings    Mas

0001   00.0  02.0   01.0   00.0  00.0   00600  00171              S
0002   00.0  02.0   01.0   00.0  00.0   02198  00544         D
0003   00.0  02.0   08.0   00.0  47.2-  00000  01186
0004   00.0  02.0   08.0   00.0  37.6-  03210  00606
0005   00.0  02.0   01.0   00.0  00.0   01905  00596         M          05
0006   00.0  02.0   05.8   00.0  25.6-  02332  00550
0007   00.0  02.0   01.0   00.0  00.0   00159  00008
0008   00.0  02.0   04.5   00.0  23.0-  00000  01393
0009   00.0  02.0   04.9   00.0  23.8-  00000  01177
0010   00.0  02.0   08.0   00.0  37.2-  01554  00734
0011   00.0  02.0   01.0   00.0  00.0   00098  00006         A
0012   00.0  02.0   01.5   00.0  17.0+  02890  01098
0013   00.0  02.0   01.0   00.0  00.0   00098  00006         A
0014   00.0  02.0   08.0   00.0  36.8+  02311  01020
0015   00.0  02.0   01.0   00.0  07.4-  02582  00948
0016   00.0  02.0   02.5   00.0  19.0-  03758  01372
0017   00.0  02.0   03.2   00.0  20.4-  00000  01769
0018   00.0  02.0   08.0   00.0  34.6-  00897  00174
0019   00.0  02.0   08.0   00.0  32.0+  02160  00560
0020   00.0  02.0   08.0   00.0  40.4+  02349  00672
Tot-         Tot-   Tot-   Tot-  Av--
323          0646   1040   0000  15.1                  ALL COWS DISPLAYED
```

This example shows both In- and Out of Parlour feeding with a 'flat' ration of 2kilos given to all cows in the parlour. M+ was calculated for the Out of Parlour feed (OPFa).

Type 'Y' to continue. The feed calculations are performed and the screen refreshed to show the new values.

The figures which appear under the gr(oup) column indicate the *previous* ration value as a check that the M+ has functioned correctly. They will be replaced by the group number the next time the Edit screen is displayed.

THE FILES MENU: Key F from the Main Menu.

Down-loading, getting data *from,* and Up-loading, sending data *to,* In-Parlour and Out Of Parlour installations is simply achieved from the files menu. Before data exchange can occur, the Micro Control and/or Meridian Out Of Parlour console must be connected to the correct serial port of the personal computer using the proper PC-Interface supplied by ATL. The Control or Console must be powered up.

It is important to use the correct sequence of events before moving data from one part of the system to another:

- ◼ *The Micro control is master. It is the front line data collection point so information stored in its memory should be the most recent and up to date.*
- ◼ *Before making any changes to the herd data, ALWAYS upload (from the Micro) to the PC first. In this way you will be sure the data is current.*
- ◼ *Make a Backup Disk (Floppy) of the data.*
- ◼ *Make your changes at the PC and immediately down load (to the Micro). This process overwrites the data that is stored on the Micro and it can only be restored from the Backup Disk (if you made one!).*

Cows deleted in Cowculator are not deleted in the Micro. The procedure must be carried out at the Micro as well. This arrangement protects against accidental deletion at the PC. To avoid having to repeat the operation, make any deletions at the Micro before uploading.

Getting In-Parlour Data from the Micro: (Key 'G').

The screen display (opposite) will appear and Cowculator will try to establish a data connection with the Micro. If the connection is successful, each cow record will be accessed, the data extracted and the cow number displayed on the screen.

When all data has been sent, the connection is cleared and the information is available to Cowculator. The data is stored on the 'C' drive in the PC as a file called 'C:\atl\cowdata.atl'. Any data already in that file is copied into a backup file also on drive 'C' before the new data is written. *This backup is only temporary and should not be confused with*
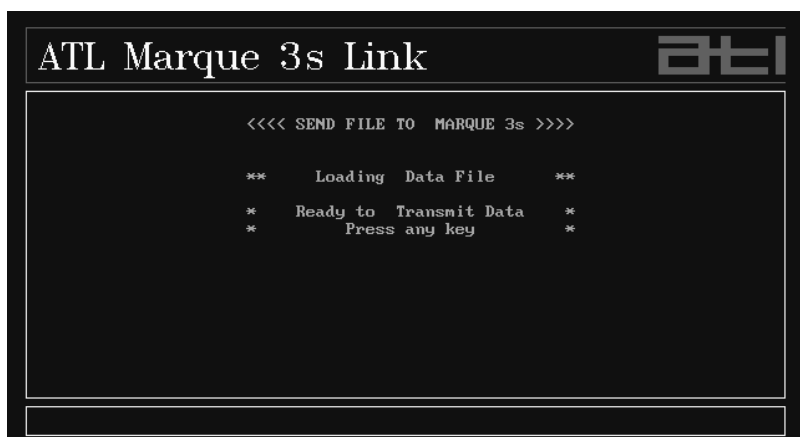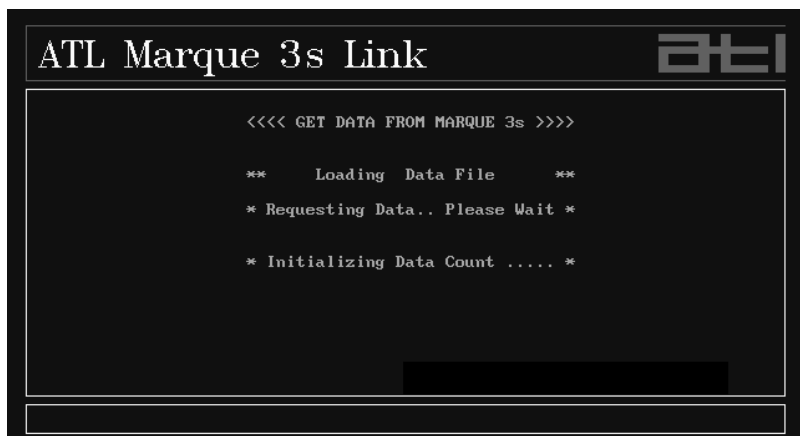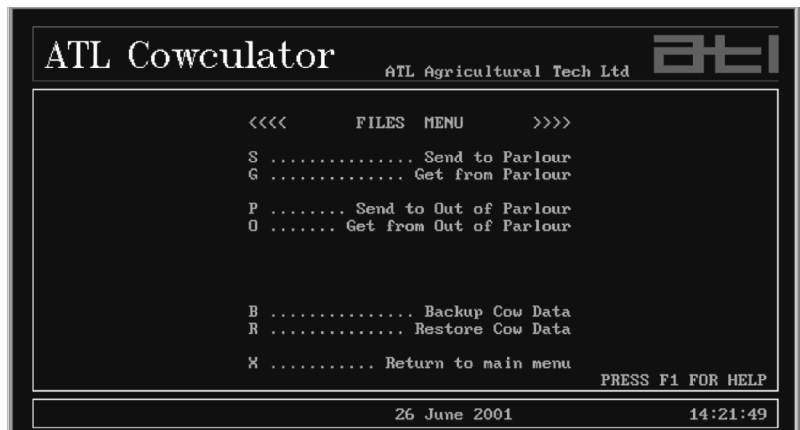
the 'permanent' floppy disk backups described later. If, having uploaded you decide the 'old' data was valuable, type 'Ctrl+U' (Undo) before doing anything else to restore the original data.

Sending In-Parlour Data to the Micro: (Key 'S' from the Files Menu).

Data modified in the Cowculator program can be sent back to the Micro to *overwrite the data already held there*. However, cows deleted in Cowculator will not be deleted in the Micro; as a safety measure they must be removed at the Micro also.

The downloading process is fully automatic with Cowculator establishing a connection, sending the records- the cow record currently being sent is displayed on screen- and terminating the session when it is complete. To leave the download screen press any key.

Getting and Sending Out Of Parlour Data to and from the Meridian Console: (Key 'O' to get data/ Key 'P' to send data).

The process of data exchange with Meridian Out Of Parlour system is almost identical to that for In-Parlour- only the screen headers change to show that this is an Out Of Parlour exchange. The connection, data transfer and termination are completely automatic.

Backup Cow Data: (Key 'B').

This function copies the current cow records stored on the hard disk onto a 3.5" floppy disk. You will be asked to insert a blank disk in drive 'A' and then press any key. If the Cowdata file already exists on the disk it will be overwritten with the current data. Floppy disks are very inexpensive so a good idea is to have a separate disk for each day of the week labeled Sunday through Saturday and use it exclusively for backups on that day.

Restore Cow Data: (Key 'R').

A 3.5" floppy disk holding cow data must be present in Drive A. The data is copied from the disk onto the hard drive and *overwrites any Cowdata which may be located there.*

Importing NMR data

This feature is only available if the optional NMR module has been installed. NMR disks contain important information concerning milk yields which can be extracted by Cowculator and written to cow records. The yield data can then be used to calculate new rations.

The NMR module is supplied on a single floppy disk; repeat the process used to intall the original Cowculator program but there will not be a prompt for a second disk.

The NMR module creates an icon on the computer desktop. To load the data:

Quit Cowculator if it is running.
Insert your latest NMR records floppy disk into the floppy drive.
Double left click the NMR icon on the desktop. The import NMR data screen will appear.
Follow the prompts to import the data.

If the disk is not present, the MSDos message 'Drive A not ready: Abort: Retry: Fail' will appear. Type 'A' to return to the desktop.