






GM Connect Instructions

Initial Setup

1. Connecting your GrassMaster II to a PC.
 - a. If you have an older PC it will probably have a DB9 serial port on the rear as shown on right. Note: It has 9 pins. Simply connect the supplied cable to this connector. Unless someone has altered the default settings this will be COM1. 
 - b. If your PC does not have a DB9 connector, as shown above, you will have to connect using a USB to RS232 convertor cable available at from Novel Ways or your local electronics store.
 - i. Follow instructions that came with your convertor cable to install on you PC.
 - ii. Ensure you have the convertor set to a COM port between 1 and 9 e.g. COM3.
2. Install GM Connect on your PC using the file on supplied CD or downloaded from here: http://www.novel.co.nz/uploads/76545/files/136209/SetupGMII_Connect.exe
3. Run GM Connect.
4. Fill in all the fields as required in the “New File Setup” and click ok.

Paddocks Screen

- Click on the  button to add a new paddock.
- Paddocks are automatically given a number. Click on the name of the paddock to assign it a name (e.g. Paddock 1)
- Enter the effective pasture growing area (ha) of the paddock and specify the paddock category using the drop down box.
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- Creating paddocks in the FeedWedge module automatically updates the effective farm area in the FeedBudget module.
- The effective farm area cannot be changed in FeedBudget module once you have created paddocks.
- Paddocks can be sorted by selecting one or more paddocks and clicking on  or 
- The paddock sort order is used when printing a blank cover sheet, to match the walk order and also when importing data from the GrassMaster II pasture probe
- Click on  to delete any selected paddock from your file.
- NOTE: Deleting a paddock will also remove all farm walk data for that paddock!

Farm Walk Screen

This page allows you to record paddock pasture covers, calculate pasture growth rates, paddock total pasture kg DM, available pasture kg DM and average farm pasture cover. Click on and adjust the Grazing Residual pasture cover (kg DM/ha) and Pre Grazing Target pasture cover (kg DM/ha) to suit your farm situation. These values are used to set the target paddock pasture covers, available pasture kg DM and which paddocks are used in the Rotation Planner Daily Planner.

Calculate the pre-grazing cover target

There are two ways the pre-grazing cover can be calculated:

Method 1

(Stocking rate x Intake1/ x Rotation) + Optimum residual = Pre-grazing cover

(___ cows/ha x ___ kgDM/cow x ___ days) + ___ kg DM/ha = ___ kgDM/ha

E.g. (3.0 cows/ha x 18 kg DM/cow x 22 days) + 1500 kg DM/ha = 2700 kg DM/ha

Method 2

$\frac{(\text{Cows} \times \text{Intake1})}{\text{Area offered}}$ + Optimum residual = Pre-grazing cover

(___ cows x ___ kgDM/cow) + ___ kg DM/ha = ___ kgDM/ha

(___ Effective area ÷ ___ rotation length)

E.g. $\frac{(300 \text{ cows} \times 18 \text{ kg DM/cow})}{(100 \text{ ha} \div 22 \text{ days})}$ + 1500 kg DM/ha

$(5400 \text{ kg DM} \div 4.54 \text{ ha/day}) + 1500 \text{ kg DM/ha} = 2700 \text{ kg DM/ha}$



Note: 1/ Intake is pasture only

Determine the post-grazing residual target


The post grazing residual needs to be a consistent even height throughout the milking season. For ryegrass/clover pastures the target is 1500-1600 kg.

Importing data from the GrassMaster II pasture probe


Please ensure your paddocks are sorted in the order that you performed your farm walk.

Use the  or  buttons on the paddocks page to do this.

Please follow the instructions as detailed in the initial setup to ensure the communication between the probe and your computer is working.

1. Click on the  button to add a new walk, enter the date when prompted and click OK.
2. A new window will open. Select the appropriate COM port from the menu 'Port'.
3. Enter the conditions from the walk at the top of this window.
4. Ensure GrassMaster II is turned on and connect to your PC using the cable supplied and click on the blue 'Start' button.
5. You will be prompted to press the "Undo/Download button on your GrassMaster.
6. After a little while, data will show in the text window. When no more data is received the process will stop.
7. Click on the blue button 'accept this data' to transfer the data into you new farm walk table.
8. Once accepted, the blue button will show the formula that was used (retrieved from the GM II) Click on it if you want to change it.

Exporting Data into an Excel Spreadsheet

To export your farm walk data into an Excel spreadsheet click on the  button.

Feed Wedge Screen

The Feed Wedge graph gives a visual picture of the current pasture situation by ranking the paddocks based pasture cover. The graph can be used to:

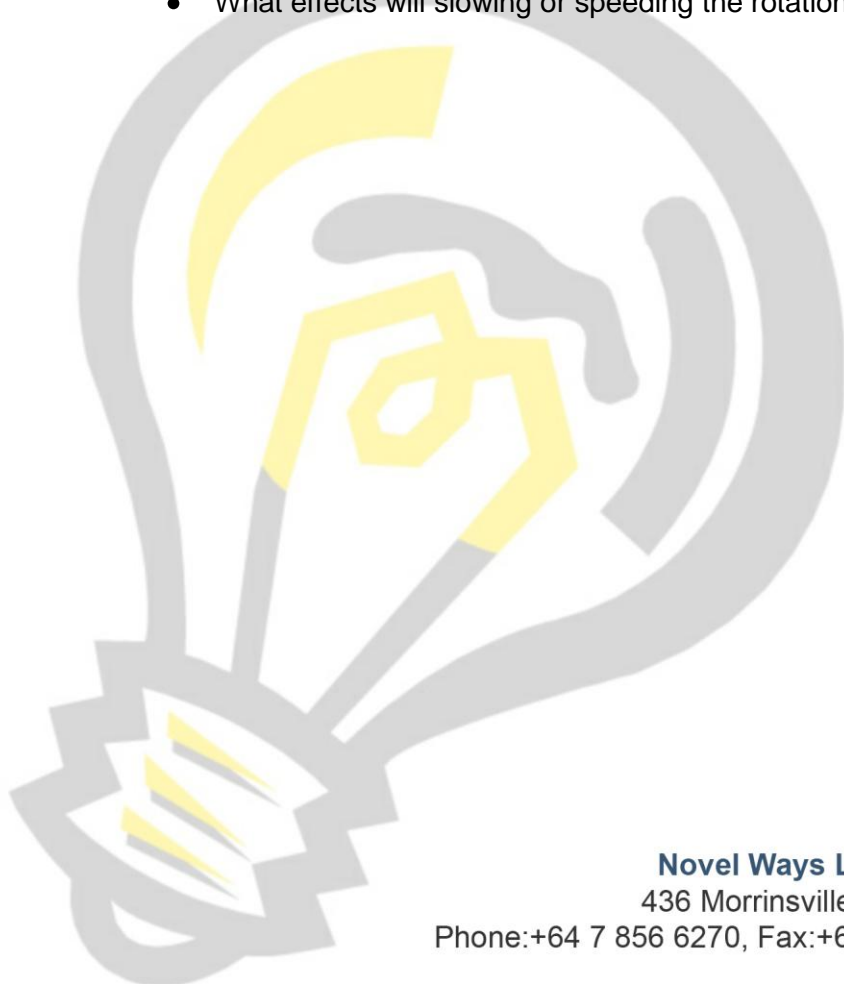
- Help identify surpluses/ deficits early
- Decide the grazing order for the next few days' grazing
- Make pasture management decisions on time

Select the date from the drop down menu of the farm walk you wish to view as a bar graph of paddock pasture cover.

Paddock category is shown in the legend on the left hand side of the graph.

Consider the questions below when reading the graph.

- If paddocks are above the pre grazing pasture cover target: how many and is there a true surplus?
- Are there any paddocks well below the target cover line? When will they be ready for grazing? Will they have enough pasture growth to meet the cover line or will you need to feed supplements or use a nitrogen fertilizer?
- What effects will slowing or speeding the rotation up have on the feed situation?



Pasture Cover Screen

Pasture Cover graph

This line graph shows the amount of pasture cover at the start of each period on the dairy farm throughout the budget in three ways.

1. Budget pasture cover

The line follows the budgeted surpluses and deficits accumulating through time, starting from your opening pasture cover at the budget start date.

2. Observed or Farm Walk pasture cover

This is the actual amount of pasture that you have estimated to be on the milking area and have either typed in on the Pasture growth page or is automatically calculated from the farm walk data in FeedWedge module.

3. Forecast pasture cover

The line follows the budgeted surpluses and deficits accumulating through time, starting from your *most recent observed or farm walk* pasture cover. It is **an early warning** for you to check and manage for any deficits or surpluses.

Pasture cover targets

If a surplus occurs within a period the pasture cover line will go up. If a deficit occurs within a period the pasture cover line will go down.

Do the movements in pasture cover make practical sense? Do the levels of average pasture cover achieve known target levels at critical times e.g. at calving?

Amend feed budget

Consider the inputs into the feed budget and modify to make the feed supply and demand come into closer balance within each period and for the total feed budget period.

Surplus pasture

If you have removed area for paddocks closed for silage, the pasture cover graph does not include pasture in these paddocks.

Assessing pasture cover

To take full advantage of your feed budget you should monitor what is actually happening on the farm and you may adjust your feed budget accordingly.

Pasture cover should be assessed using your GrassMaster II pasture probe. Pasture cover is the most important feed supply indicator on a dairy farm. Changes in pasture cover reflect the balance between feed supply and feed demand.

Check the pasture cover graph with your own targets for the year (e.g. 2200 kg DM/ha at calving). In order to feed cows well from pasture alone, average pasture cover should not fall below a minimum value of approximately 1800 kg DM/ha, otherwise bite size will be restricted and pasture growth compromised.

For more information on pasture assessment, go to Monitoring pasture cover in the FeedWedge help section.

Pasture quality

FeedFlo does not deal with seasonal changes in pasture dry matter percent, or in changing pasture quality or digestibility. All calculations are done on a standard pasture equivalent basis at 11.5 MJME/kg DM.

Comparing actual to budget

Suppose on the 1st May the pasture cover is say 200 kg DM/ha lower than that predicted one month earlier. You need to account for why this has happened and how you will best manage the change.

You should consider two things:

Review

1. Think about what caused the difference in pasture cover (e.g. slower grass growth, more stock milked on for longer)
2. Change these factors in FeedFlo until the budgeted pasture cover is the same as the observed and save it as a new file (e.g. FeedFloWinter2005 Actual)
3. Look at the forecast pasture cover line
4. If the difference in pasture cover had a negative impact on your profit, consider what could be done in future to prevent this from occurring

By recording your estimate of the actual feed supplied and apparently eaten you can create a real picture and record of what happened throughout the budget period. This type of feed reconciliation will provide a good basis for planning next year.

Plan and do

1. Use FeedFlo to adapt future periods to still achieve pasture cover and production targets
2. Do it - make what you have planned happen

Predicting milk solids production

The total feed supply in the feed budget offers a potential level of milk solids production, depending on the conversion efficiency of feed to milk solids.

For example 15,000 kg DM per hectare offers the potential to produce 1,000 kg MS per hectare, at a conversion efficiency of 15:1 (kg DM:kg MS). Note this is a high level of conversion efficiency and many farms operate lower than this level.

Dividing the 15,000 kg DM and 1,000 kg MS per hectare by the number of cows per hectare gives the feed supply per cow, and potential kg MS per cow.

e.g. 15,000 kg DM per ha / 3.0 cows per ha = 5,000 kg DM per cow

e.g. 1,000 kg MS per ha / 3.0 cows per ha = 333 kg MS/cow