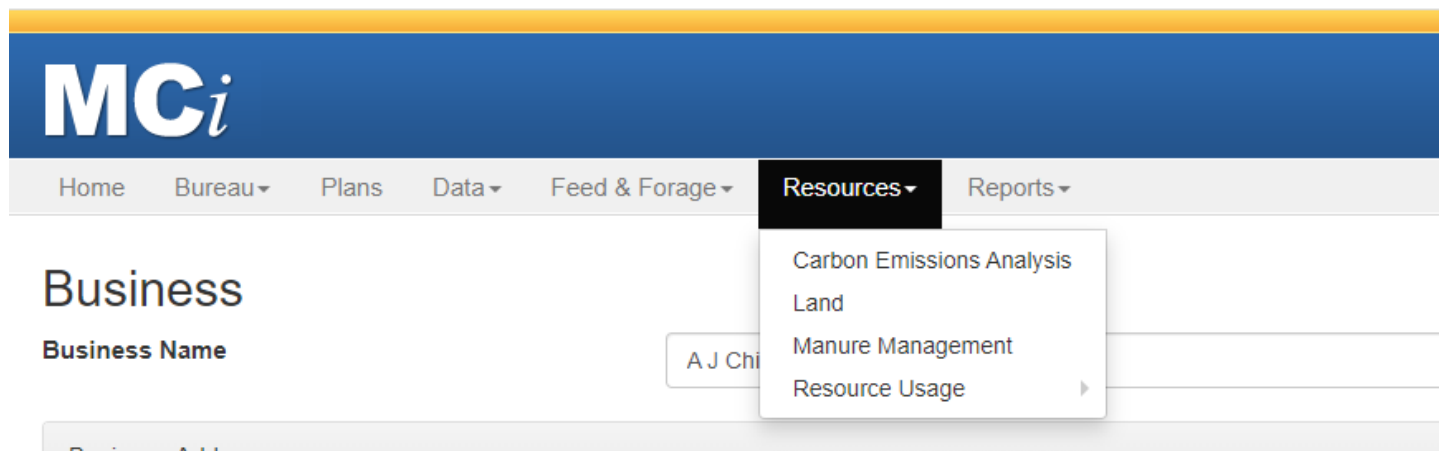


MCi Dairy Emissions Manager (www.dairy-mci.com)

You will need permission to have access to the emissions model. Please contact your consultant or email enquiries@thedairygroup.co.uk.

Go to 'Resources' and select 'Carbon Emissions Analysis'.



For a new analysis select 'New profile' and select from the drop down arrow a 12 month period end (normally a period with 12 months data). Enter a name for the report.

MCi will pre-populate with the data available.

The pink section at the top (if displayed) will highlight missing data, which will need to be entered.

Herd size

MCI will pre-populate with data recorded.

Enter the average number of all youngstock kept on the farm in the 12 month period.

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements Casualties Manure Management Feed Fuel Fertiliser Land Electric Bedding Waste

Herd Size	Production
Average Pre Weaning	Litres Sold
<input type="text" value="19.00"/>	<input type="text" value="1564670"/>
Average Weaning To 12 Months	Litres Not Sold
<input type="text" value="37.00"/>	<input type="text" value="6885"/>
Average 12 Months To First Calving	Butter Fat Percent
<input type="text" value="41.00"/>	<input type="text" value="4.23"/>
Average Cows Dry	Protein Percent
<input type="text" value="19.00"/>	<input type="text" value="3.32"/>
Average Cows In Milk	
<input type="text" value="151"/>	
Average Adults Other	
<input type="text" value="0.00"/>	

Movements

The culls will be pre-populated and in this example there are 28. The purchases (includes home reared) will be pre-populated and in this example there are 31 heifers entering the herd. If there were purchased cows this value should also be pre-populated.

MCi The Dairy Group

Home Bureau Plans Data Feed & Forage Resources Reports Client: D Mortimer & So Edit Herd: Norrington Edit Lo

Profile Results

12 Month Period Ending: March 2023

Description: Apr 22 to Mar 23

Herd **Movements** Manure Management Feed Fuel Fertiliser Land Electric Bedding

Sales

Category	Amount
Pre-Weaning:	<input type="text" value="91"/>
Weaning To 12 Months:	<input type="text" value="0"/>
12 Months To First Calving:	<input type="text" value="2"/>
Cows In Milk:	<input type="text" value="28"/>
Dry Cows:	<input type="text" value="0"/>
Adults Other:	<input type="text" value="0"/>

Purchases

Code System	Code	Type	Amount
animal_dairy_adults	PURC212	Conventional lowland milk system, silage maize 5 to 10%, milk	<input type="text" value="31"/>

Add Purchase

Code System:

Code System:

Add Purchase Type

Casualties

MCi will pre-populate the casualties recorded or update here.

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements **Casualties** Manure Management Feed Fuel Fertiliser Land Electric Bedding Waste

Casualties

Category	Amount	Average Weight (kg)
Pre-Weaning:	<input type="text"/>	<input type="text" value="Use default value"/>
Weaning To 12 Months:	<input type="text"/>	<input type="text" value="Use default value"/>
12 Months To First Calving:	<input type="text"/>	<input type="text" value="Use default value"/>
Cows In Milk:	<input type="text"/>	<input type="text" value="Use default value"/>
Dry Cows:	<input type="text"/>	<input type="text" value="Use default value"/>
Adults Other:	<input type="text"/>	<input type="text" value="Use default value"/>

Manure management

MCi will default to 100% as slurry (cows 100% housed). Amend the % to reflect the situation on farm, which for a grazing system might be 40% Pasture and 60% liquid slurry. In this mainly housed example it is 80% slurry.

MCi

Home Bureau Plans Data Feed & Forage Resources Reports

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements **Manure Management** Feed Fuel Fertiliser Land Electric Bedding

Type	Percent
Pasture/Range/Paddock	10.00
Liquid/Slurry (With natural crust cover)	80.00
Solid Storage	10.00

Feed

MCi will list all the feeds with data for the period selected. Some feeds will have pre-populated data and can be amended if you have better data. For home grown silages leave the CO2e value blank as this should already be accounted for in fertiliser and fuel used.

MCi
The Data

Home Bureau Plans Data Feed & Forage Resources Reports
Client: D Mortimer & Sc Edit Herd: Norrington

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd
Movements
Manure Management
Feed
Fuel
Fertiliser
Land
Electric
Bedding

Code System	Code	Item	Custom	Co2 Value (kg per t):	ME	Crude Protein	NDF	Digest. %	Amount
		30% HE concentrate	<input checked="" type="checkbox"/>	1,200.00	13.00	34.50	300	80	234,235.00
		Urea	<input checked="" type="checkbox"/>	1,346.00	0.00	290.00	0	0	1,412.00
		Compound - 12.5 ME, 1f	<input checked="" type="checkbox"/>						210,225.00

Fuel

If you have fuel data recorded on MCI the data will be pre-populated. Or you can enter the litres used here, which should include fuel used by contractors.

MCI

Home Bureau Plans Data Feed & Forage Resources Reports

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements Manure Management Feed **Fuel** Fertiliser Land Electric Bedding

Code System	Code	Item	Amount
standard	FUEL003	Liquid fuels, Diesel (burned in agricultural machinery)	20,000.00
standard	FUEL005	Liquid fuels, Diesel (burned in lorry)	2,000.00

Add Fuel

Code System:

Code System:

Add Fuel

Fertiliser

If you have fertiliser data recorded on MCI the data will be pre-populated. Or you can enter the kg used here.

MCI

Home Bureau Plans Data Feed & Forage Resources Reports

Profile Results

12 Month Period Ending:
March 2023

Description
Apr 22 to Mar 23

Herd Movements Manure Management Feed Fuel **Fertiliser** Land Electric Bedding

Code System	Code	Item	Amount
standard	FERT011	Calcium ammonium nitrate (27% N)	55,200.00

Add Fertiliser

Code System: standard

Code System: Average mineral fertilizer, as K2O

Add Fertiliser

Land

You will need to enter the various land types. In this example there is 66ha of grass, 40ha of maize and 12 kilometres of hedge:

MCi 7

Home Bureau Plans Data Feed & Forage Resources Reports Client: D Mortimer & So Edit Herd:

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements Manure Management Feed Fuel Fertiliser **Land** Electric Bedding

Code System	Code	Item	Amount	
crop_hedgerow	LAND301	Hedges (<30 years)	<input type="text" value="12.06"/>	kilometers
grassland	LAND121	Improved grassland (high inputs)	<input type="text" value="66.00"/>	hectares
crop	LAND330	Annual crops (high C inputs, with manure)	<input type="text" value="40.00"/>	hectares

Add Land

Code System:

Code System:

Add Land

Electricity

If you have electricity data recorded on MCI the data will be pre-populated. Or you can enter the kW hours used here. The amount used is for the dairy herd and should exclude domestic use or use by other enterprises. Typical dairy use is 0.06kWh/litre and domestic use if included in the total is typically 4,000kWh/household/year. In this example there was 142,000 kW hours used. The emissions value is pre-populated at 200g/kWh, so amend if you have a specific value for the farm.

MCI

Home Bureau Plans Data Feed & Forage Resources Reports Client: D Mortir

Profile Results

12 Month Period Ending: March 2023

Description: Apr 22 to Mar 23

Herd Movements Manure Management Feed Fuel Fertiliser Land **Electric** Bedding

Type	kWh	Price per kWh	CO2 g per kWh (from bill)
Imported	142,000.00	£0.00	200.00

Add Electric

Type:

Add Electric

Bedding

If you have bedding data recorded on MCI the data will be pre-populated. Or you can enter the amount used here. In this example 200t/year of straw is used. Enter in kg.

MCI

Home Bureau Plans Data Feed & Forage Resources Reports Client: D Mortimer & So Edit

Profile Results

12 Month Period Ending: March 2023

Description: Apr 22 to Mar 23

Herd Movements Manure Management Feed Fuel Fertiliser Land Electric **Bedding**

Code System	Code	Item	Amount	
standard	BEDD001	Straw	<input type="text" value="200,000.00"/>	kg
standard	BEDD002	Sawdust/Woodchips	<input type="text" value="0.00"/>	kg
standard	BEDD003	Sand	<input type="text" value="0.00"/>	kg

Add Bedding

Code System:

Code System:

Add Bedding

Waste

Waste can be added to resource and updated through monthly recording or enter here in kg.

Profile Results

12 Month Period Ending:

March 2023

Description

Apr 22 to Mar 23

Herd Movements Casualties Manure Management Feed Fuel Fertiliser Land Electric Bedding **Waste**

Code System	Code	Item	Amount
standard	WAST015	Average plastic film	<input type="text" value="3,000.00"/>

Add Waste

Code System:

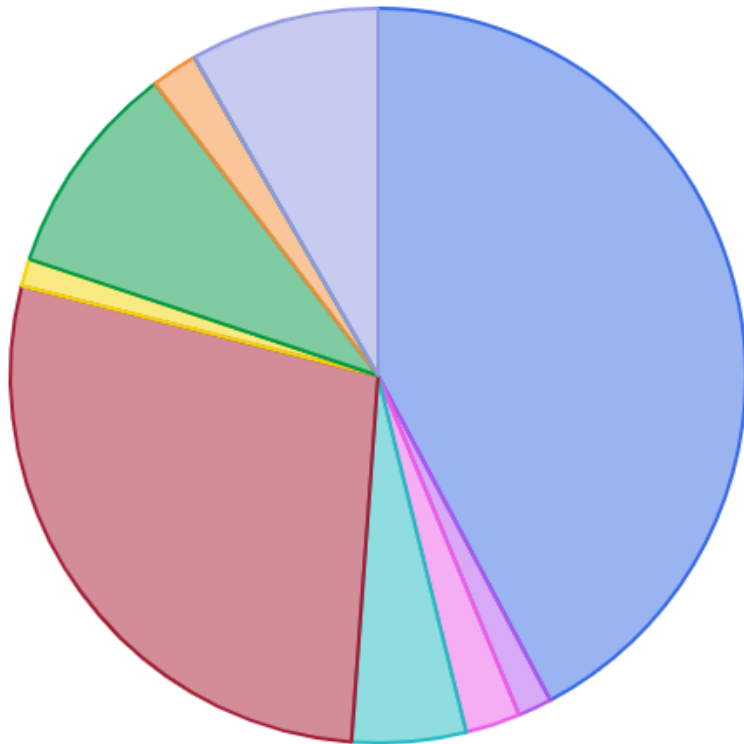
Code System:

Add Waste

Save and run model

Click the button to save and run model. The results are shown below. The data will be saved so you can go back and update or amend and re-run the model. PDF one page report available from the top right of the screen.

Profile Results



Metric	CO2 (GWP100/Tier 1)	Total
Feed	994,045	3,095 tonnes
Fertiliser	117,804	55 tonnes
Fuel	35,115	22,000 litres
Land	-56,673	118 hectares
Electric	28,322	142,000 kWh
Manure	223,265	10.00 Pasture, 80.00 Slurry, 10.00 FYM
Enteric	653,712	166 cows
Bedding	48,267	200,000 tonnes
Waste	27	3,000 kg
Purchases	195,859	31 Animals
Disposals	0	0 Animals
Total CO2 (GWP100/Tier 1)	2,239,743	
Per Cow	13,175	
Per Litre	1.43	1,571,555 litres
Breakdown		
Total CO2 - Cow Sales	175,206	
Total CO2 - Milk Production	2,064,538	
Per Cow (Milk Production)	12,144	
Per Litre (Milk Production)	1.32	1,571,555 litres

Save & Run Model

Simulation Run Complete