MCi milk forecast guidance

Before you start

For an existing MCi user you should print the latest monthly actuals to provide the key data to refer to in the new forecast. If not an existing user then best to enter 12 months back data using the latest milk statements and best estimates of cows in herd, cows in milk and feed use.

You will also need past calving data by month for cows and heifers (e.g. Uniform and Interherd+ provides a report) AND those are still in the herd.

You will also need forecast calving data by month for cows and heifers (e.g. Uniform and Interherd+ provides a report). Often the forecast calving data is an over estimate of calvings as there will be assumptions about services and there is no allowance for unforeseen casualties. The best guide to herd size is the previous culling rate.

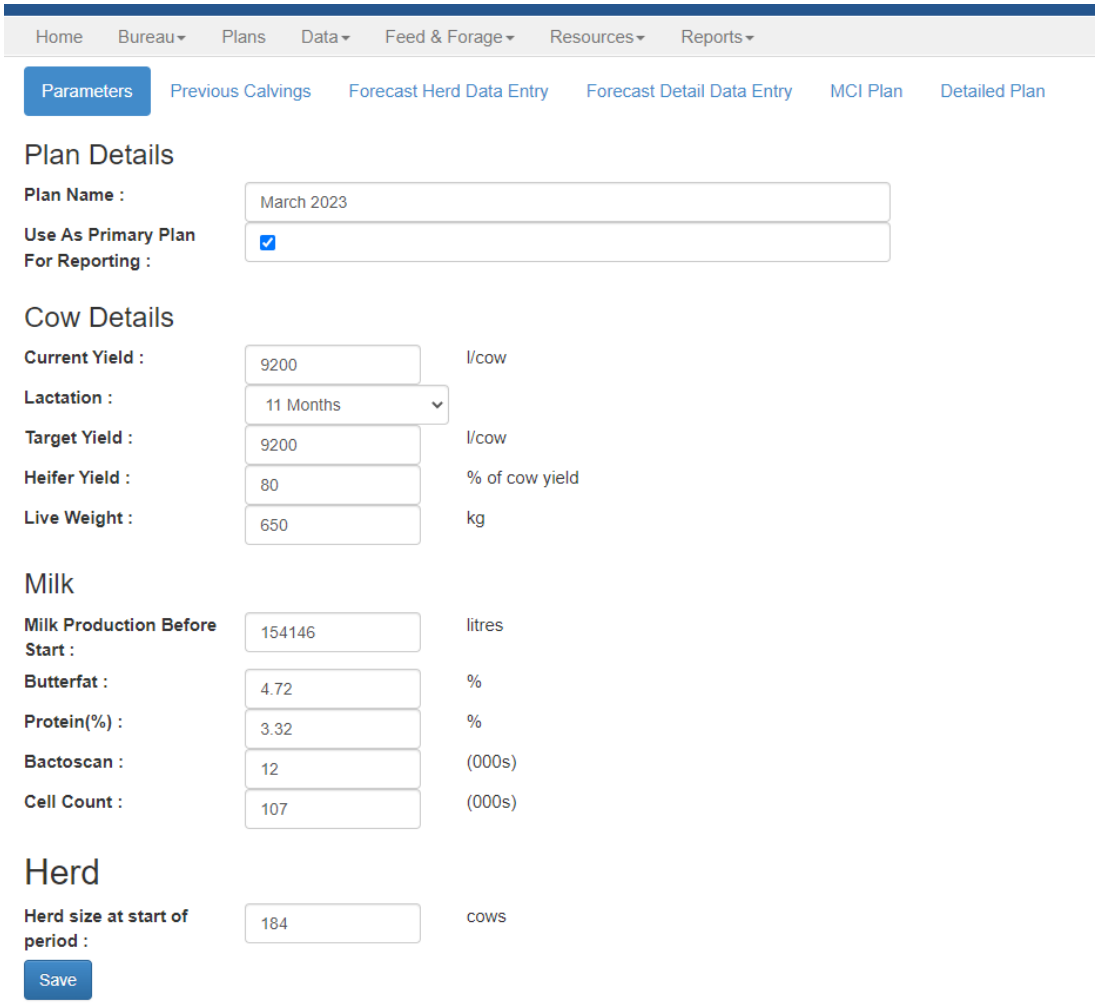
New forecast/Edit forecast

Go to plans. For an existing MCi user the screen will display the latest data on MCi and the start month for the forecast will be the month after the latest data, i.e. if you have MCi results to Feb23 the start month will default to Mar23. You can select an alternative start month from the drop down list.

View/Edit forecast will display the plans saved on MCi.

Parameters

Create plan brings up the herd details screen.



Lactation yield - For an existing MCi user this the current 12 month rolling yield will be displayed. For a new user it is your best estimate of average cow lactation yield. Once you have run the forecast you will need to go back and adjust the yield to refine the forecast.

Lactation length - the default is 10 months, but for most using 11 months gives a better forecast even for autumn block calving herds.

Target yield - The default is +2% on the current lactation yield (genetic progress would normally increase yield by 2% per annum, e.g. if current rolling yield is 8000 litres then the target yield could be 8160 litre).

Heifer yield - the default is for the heifer yield to be 80% of the average cow yield, which usually works well.

Liveweight - the default is 625kg. This value is used in MCi calculations on maintenance requirements.

Previous production - For an existing MCi user the value will be entered. This value is used to check the accuracy of the forecast. If no value displayed then enter the litres produced (sales + home use + discard) in the month before the start of the forecast.

Starting herd size - For an existing MCi user the value will be entered. Otherwise enter the herd size at the start of the forecast month.

Previous calvings

For an existing MCi user the previous calvings will display the number of calvings recorded on MCi. If you are not an existing MCi user you will need to enter the actual previous calvings. The 'Excess calvings' will display the number if the total calvings exceeds the herd size at the start of the forecast. You should remove calvings (cows or heifers) if they have been culled since they calved. The Interherd+ report below gives the calvings of cows and heifers still in the herd:

Surviving Cows and heifers milked at the latest recording

115987203 Gribble Latest milk recording: 13/03/2023; Latest event date: 13/03/2023

Averages 13/03/2023

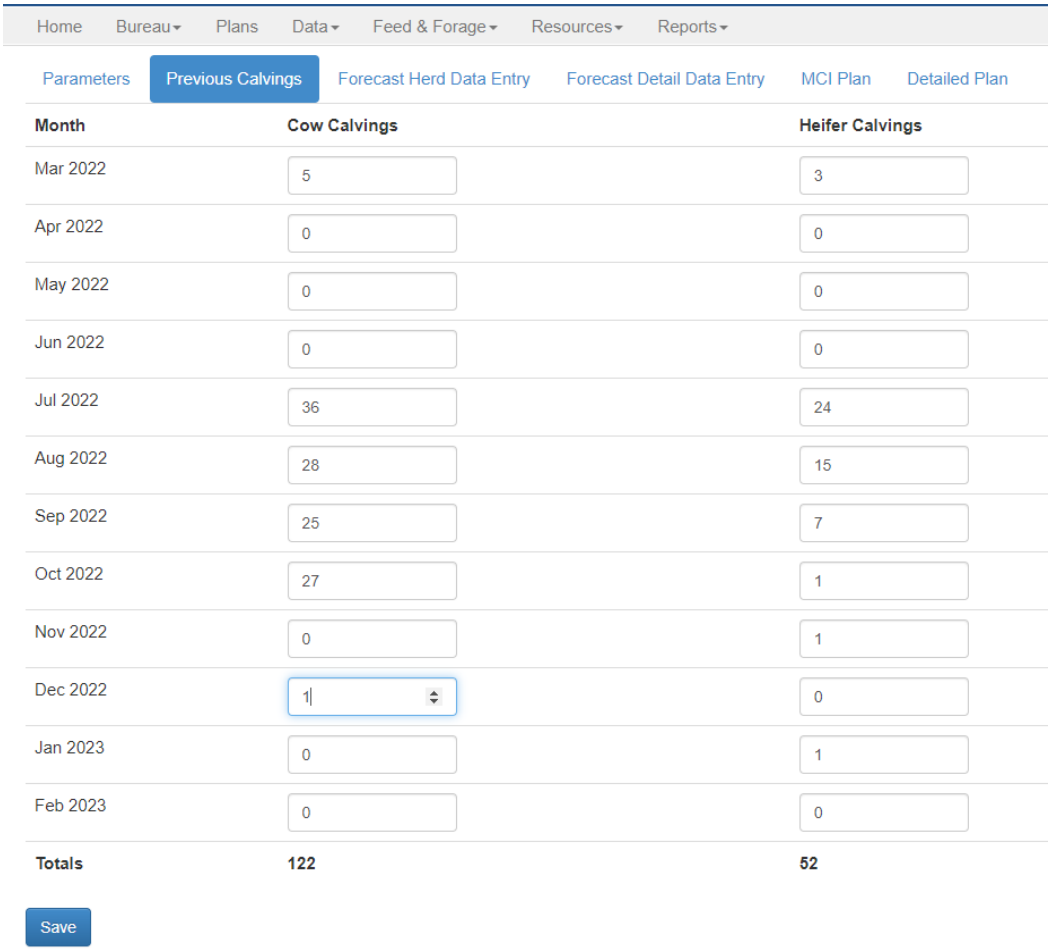
Monthly summary over last 12 months (beware of falling conception rates in the latest month(s) due to unknown outcomes)

Month of calving	No. cows		Average milk kg	Milk cf.exp.		Average protein kg	Average protein %	Protein cf.exp.		Average fat kg	Average fat %	Fat cf.exp.		Ave FPR		Average SCC	SCC >=200	SCC >=500
Jan 2023	1		31.80	11%		0.89	2.79%	-7%		1.49	4.70%	10%		1.68		75	0%	0%
Nov 2022	1		28.80	-8%		0.98	3.42%	-2%		1.41	4.88%	-5%		1.43		28	0%	0%
Oct 2022	1		28.00	5%		0.93	3.31%	4%		1.21	4.33%	0%		1.31		46	0%	0%
Sep 2022	7		26.51	-6%		0.92	3.47%	-7%		1.28	4.82%	0%		1.39		42	0%	0%
Aug 2022	15		26.92	-4%		0.90	3.35%	-7%		1.30	4.81%	-3%		1.44		36	0%	0%
Jul 2022	24		25.91	-8%		0.86	3.32%	-14%		1.31	5.07%	-5%		1.53		38	0%	0%
Sep 2021	3		25.60	20%		0.98	3.83%	2%		1.40	5.47%	28%		1.43		36	0%	0%
Aug 2021	2		19.50	10%		0.77	3.94%	-12%		1.11	5.70%	9%		1.45		56	0%	0%
Jul 2021	1		25.40	17%		0.83	3.26%	-15%		1.08	4.24%	3%		1.30		137	0%	0%

Averages 13/03/2023

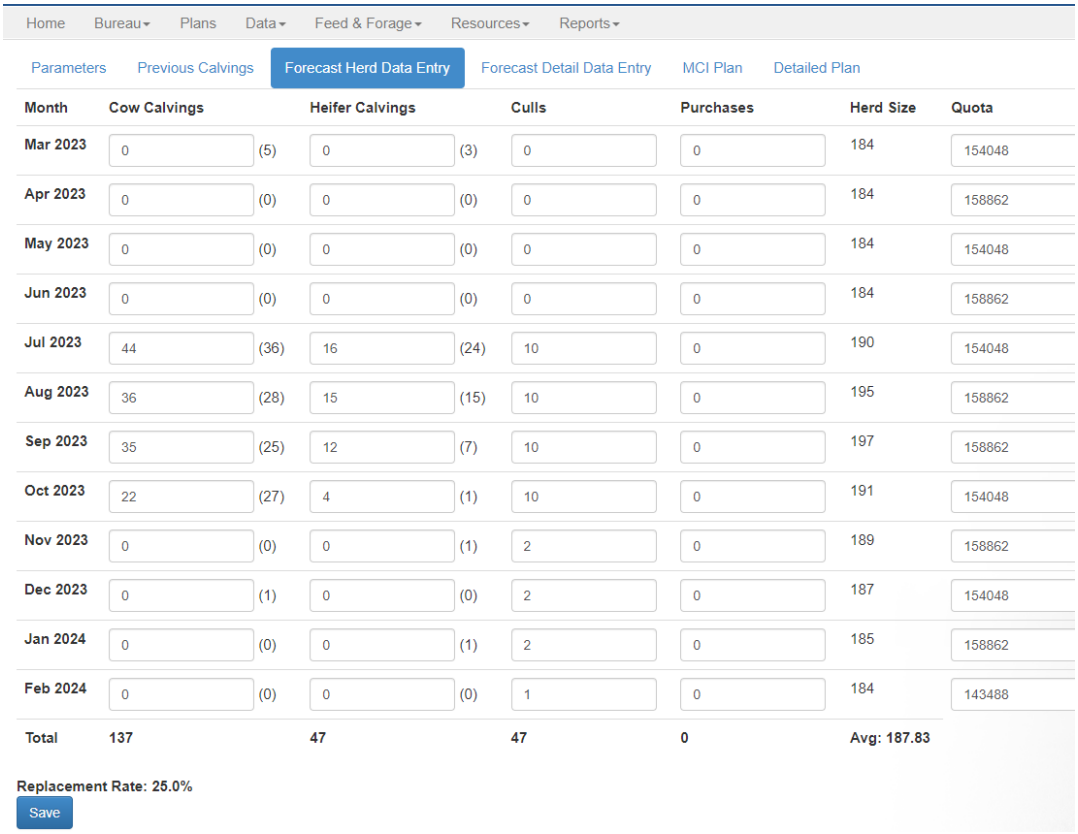
Month of calving	No. cows		Average milk kg	Milk cf.exp.		Average protein kg	Average protein %	Protein cf.exp.		Average fat kg	Average fat %	Fat cf.exp.		Ave FPR		Average SCC	SCC >=200	SCC >=500
Dec 2022	1		46.80	4%		1.43	3.05%	5%		1.97	4.21%	8%		1.38		110	0%	0%
Oct 2022	27		37.42	-4%		1.15	3.08%	-4%		1.66	4.43%	0%		1.44		51	4%	0%
Sep 2022	25		33.57	-4%		1.08	3.22%	-6%		1.55	4.61%	1%		1.43		138	12%	8%
Aug 2022	28		30.81	-5%		1.02	3.31%	-9%		1.46	4.73%	-1%		1.43		123	18%	4%
Jul 2022	36		29.42	-4%		1.03	3.49%	-9%		1.43	4.86%	-4%		1.39		117	22%	3%
Feb 2022	1		26.60	11%		0.98	3.70%	-1%		1.43	5.36%	9%		1.45		23	0%	0%
Oct 2021	4		21.85	11%		0.86	3.95%	-8%		1.22	5.56%	4%		1.41		119	0%	0%
Sep 2021	3		20.87	23%		0.81	3.86%	0%		1.09	5.20%	16%		1.35		189	67%	0%
Aug 2021	1		29.00	46%		1.00	3.44%	9%		1.30	4.49%	35%		1.31		34	0%	0%

These previous calvings should be entered and will often be quite different for the cows which have been culled since calving.



Forecast calvings

The cow calvings should not exceed the start of forecast herd size less the planned culls. You should allow approximately 5% of unforeseen casualties (cows & heifers) and exclude this number from the forecast calvings.



Month	Cow Calvings		Heifer Calvings		Culls	Purchases	Herd Size	Quota
Mar 2023	0	(5)	0	(3)	0	0	184	154048
Apr 2023	0	(0)	0	(0)	0	0	184	158862
May 2023	0	(0)	0	(0)	0	0	184	154048
Jun 2023	0	(0)	0	(0)	0	0	184	158862
Jul 2023	44	(36)	16	(24)	10	0	190	154048
Aug 2023	36	(28)	15	(15)	10	0	195	158862
Sep 2023	35	(25)	12	(7)	10	0	197	158862
Oct 2023	22	(27)	4	(1)	10	0	191	154048
Nov 2023	0	(0)	0	(1)	2	0	189	158862
Dec 2023	0	(1)	0	(0)	2	0	187	154048
Jan 2024	0	(0)	0	(1)	2	0	185	158862
Feb 2024	0	(0)	0	(0)	1	0	184	143488
Total	137		47		47	0	Avg: 187.83	

Culls - A normal culling rate is 25%, i.e. if there are 100 cows in herd at the start of the forecast you would expect only 75 to remain at the end of the forecast. However, use the previous actual culls as a guide for the forecast.

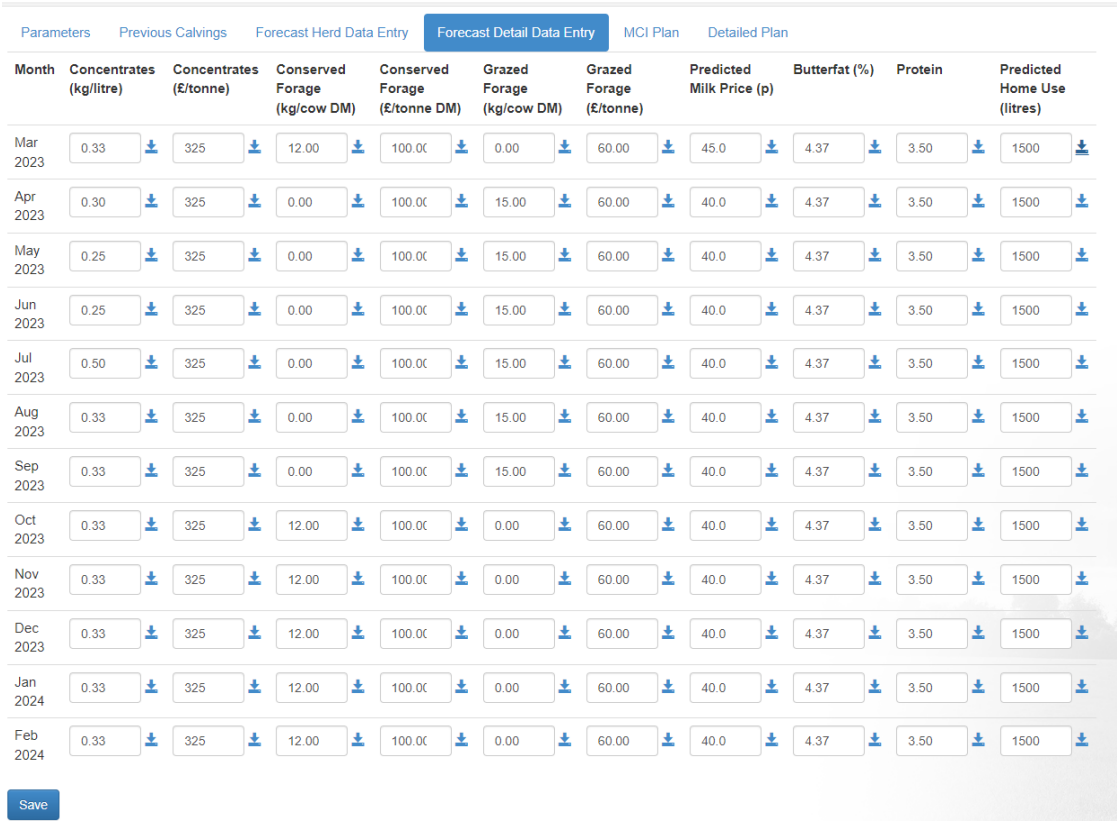
Purchases - Only include cow purchases and remember to include them in the forecast calvings. Purchased heifers only need to be added to the forecast heifer calvings as they will add to the herd size.

Herd size - This will be calculated based on the heifer calvings, culls and purchases. Does the herd size look sensible? Are the total forecast calvings similar to the forecast herd size? If not remove forecast calvings (this would normally appear as ‘Excess’).

Quota - This will default to the Arla BADP calculation based on actual litres. You can amend for any alternative that exists for other milk buyers.

Forecast detail data entry

The data entry screen is shown below. Useful to refer to the 12 month actuals report to look at the previous monthly concentrate feed rate to use. The down arrow copies down the values. There are default values for conserved forage and grazing, but these can be ignored.



Concentrates – Use the latest monthly actual report as a guide to the kg/litre and then enter a price £/t.

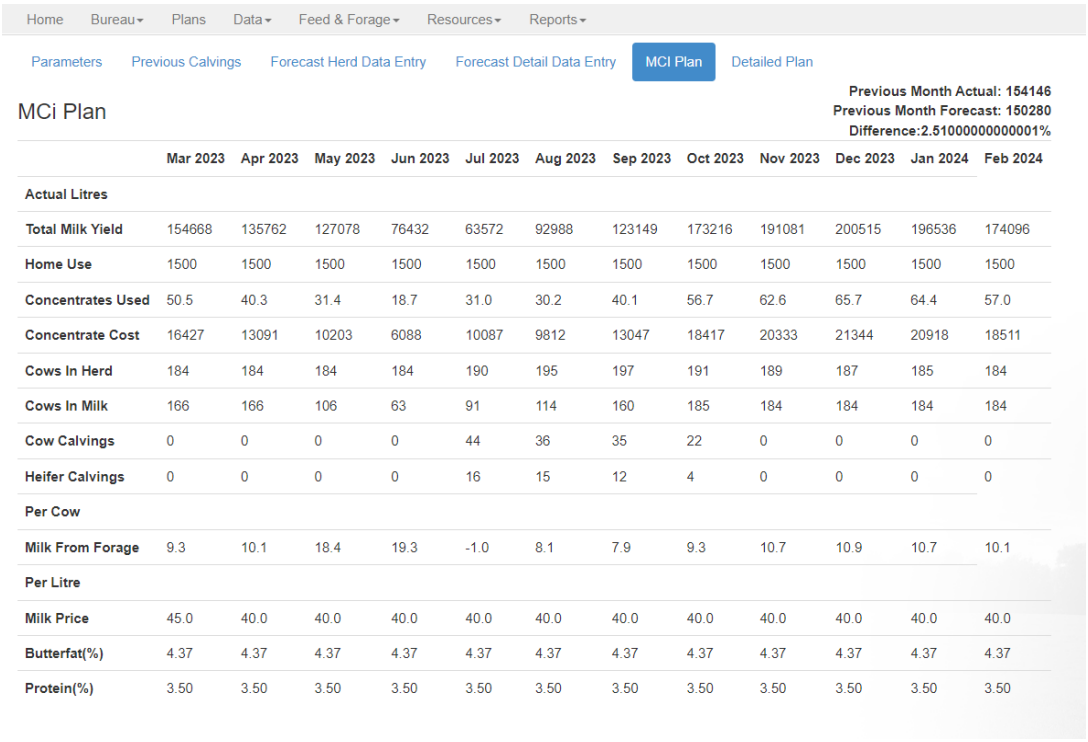
Predicted milk price - Enter your best estimate of milk price for the forecast period in ppl.

Milk quality - If you are an existing MCi user the previous year milk quality will be the default. These values are not used in any calculations.

Predicted milk not sold - The aim is to identify how much of the milk produced is actually sold. Predicted milk not sold should include home use, milk to calves and discarded milk. The monthly data gives what has been recorded and typically there will be 1% discard, which excludes milk fed to calves.

MCi plan

This is the plan that would be loaded on to MCi. There are 2 key checks for the accuracy of the forecast. Firstly the difference for the previous month actual compared to the forecast and secondly the forecast for the first month of the plan. Go back to ‘Parameters’ to adjust the previous yield & the same adjustment to the forecast yield. Then check the MCi plan again to see how close the forecast is to the actual. This is a quick and easy process to refine the forecast.



	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024
Actual Litres												
Total Milk Yield	154668	135762	127078	76432	63572	92988	123149	173216	191081	200515	196536	174096
Home Use	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Concentrates Used	50.5	40.3	31.4	18.7	31.0	30.2	40.1	56.7	62.6	65.7	64.4	57.0
Concentrate Cost	16427	13091	10203	6088	10087	9812	13047	18417	20333	21344	20918	18511
Cows In Herd	184	184	184	184	190	195	197	191	189	187	185	184
Cows In Milk	166	166	106	63	91	114	160	185	184	184	184	184
Cow Calvings	0	0	0	0	44	36	35	22	0	0	0	0
Heifer Calvings	0	0	0	0	16	15	12	4	0	0	0	0
Per Cow												
Milk From Forage	9.3	10.1	18.4	19.3	-1.0	8.1	7.9	9.3	10.7	10.9	10.7	10.1
Per Litre												
Milk Price	45.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Butterfat(%)	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37
Protein(%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

Detailed plan

This report provides a full 12 month forecast report. Check the totals for the year to see that the forecast herd size, annual milk sales, average yield and feed use looks sensible for the herd.

Parameters | Previous Calvings | Forecast Herd Data Entry | Forecast Detail Data Entry | MCI Plan | Detailed Plan

Physical & Financial Performance

	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Total/Average
Milk Produced	157190	137975	129149	77678	64609	94504	125157	176040	194196	203785	199741	176935	**1736959**
Concentrates (tonne)	51.4	40.9	31.9	19.0	31.6	30.7	40.8	57.6	63.6	66.8	65.4	57.9	**558**
Cows In Herd	184	184	184	184	190	195	197	191	189	187	185	184	**187**
Cows In Milk	166	166	106	63	91	114	160	185	184	184	184	184	**148**
Calvings	0	0	0	0	60	51	47	26	0	0	0	0	**184**
Butterfat(%)	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	**4.37**
Protein(%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	**3.50**
Concentrates (kg/l)	0.33	0.30	0.25	0.25	0.50	0.33	0.33	0.33	0.33	0.33	0.33	0.33	**0.3**
Compound Per Cow	279.23	222.51	173.44	103.50	166.08	157.39	207.14	301.56	336.45	356.97	353.62	314.64	**2972.5**
Milk Value(£)	70061	54590	51060	30471	25244	37202	49463	69816	77078	80914	79296	70174	**695368**
Concentrate Cost(£)	16698	13306	10371	6189	10255	9975	13262	18719	20667	21695	21261	18815	**181215**
Milk Price	45.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	**40.4**
MOPF £	53363	41284	40688	24282	14988	27227	36201	51097	56412	59219	58035	51359	**514153**
MOPF £/Cow	290	224	221	132	79	140	184	268	298	317	314	279	**2745**
MOPF Per Litre	34.3	30.3	31.9	31.9	23.8	29.3	29.3	29.3	29.3	29.3	29.3	29.3	**29.7**
Milk litres/cow	854	749	701	422	340	484	635	921	1027	1089	1079	961	**9262**
Daily milk litres/cow	31	28	39	41	23	27	26	31	35	36	35	33	**32**
Daily production	5071	4599	4166	2589	2084	3049	4172	5679	6473	6574	6443	6101	**4750**

Next steps

The plan will be saved on MCi. Normally a plan would need updating twice a year due to changes in calving data. Over the course of a year you will become more familiar with the accuracy of the data provided by the farmer. Remember the forecast is only as good as the data provided.