FBS
Farm Business Survey

Department
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Food & Rural Affairs

FARM BUSINESS SURVEY

Dairy Production in England

Promar International

Farm Business Survey 2022/23

Dairy Farming in England

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It is important to note that all surveys are subject to sampling error as they are not measuring the whole population, the FBS is no exception. It is common practice to publish 95% confidence intervals and error bars alongside any published estimated figures to give the reader an indication of the size of the sampling error. These signify that we are 95% confident that this range contains the true value. For simplicity within these reports, the confidence intervals have not always been published. Readers should be aware that the figures calculated from the FBS data have a level of uncertainty around them and that all figures are estimates. Generally, the smaller the sample size the greater the sampling error and the less confidence we have in the estimates. For details on the FBS confidence intervals, please refer to Defra FBS publications;

https://www.gov.uk/government/collections/farm-business-survey

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Summary: Key Findings

The Dairying Sector

- During 2022/23, average milk prices in the UK increased substantially, with a yearly average price of 46.7 pence per litre (ppl); increasing month on month to December, prices peaked at an average of 51.6 pence per litre (ppl), before decreasing to 43.6ppl in March 2023 (Figure 1.1)

- Average UK milk yield increased by almost 0.5% in 2022/23 to 8,133 litres per cow (lpc) (Figure 1.4).

- The UK national herd size for 2022/23 reduced by 10,000 cows to 1,844,000 cows (Figure 1.4).

- 332 English and Welsh producers left the industry from October 2022 to October 2023, a large increase on the 150 producers that left the industry in the previous 12 months (Figure 1.5).

Farm level results – FBS England, Dairy Farms

- Farm Business Survey data for England from 2022/23 shows that the average Farm Business Income (FBI) from dairying was £1390/ha, which at the average farm size equates to a FBI in the region of £218,230, representing an increase in total FBI of more than 56% from 2021/22.

- Average FBI on conventional dairy farms in 2022/23 was £1447/ha (£230,073 per farm), whilst on organic farms average FBI was £564/ha (£75,012 per farm). In 2022/23, the gap narrowed between conventional and organic farms FBI/ha, to almost 157%, compared with 2021/22 when conventional farms were over 161% higher than organic farms.

- Management and Investment Income (MII) across all dairy farms increased by £540/ha to £1080/ha in 2022/23. This equates to an average MII of £169,560 per farm, compared with £86,940 in 2021/22.

Dairy Enterprise Results - FBS England, Dairy Farms

- Enterprise-level analysis shows that in 2022/23 the conventional herds' total dairy output increased by £1,146/cow to £3,861/cow, with a small decrease in yield (-23lpc) more than offset by an increase in milk price of 13.6ppl. Organic herds' total dairy output rose by £58/cow taking the figure to £2,326/cow; whilst yield decreased (-959lpc) there was a rise in milk price of 8.9ppl.

- Lowland herds saw an increase in average milk price of 13.5ppl, whilst LFA herds witnessed an increase of 13.9ppl; GM/cow increased by £802 for lowland and £455 for LFA herds. Lowland herd yield per cow increased by 173 litres and together with the higher milk price, despite the much higher variable costs, resulted in the higher GM/cow. LFA herds saw a decrease in yield (-1,071l); this was offset by the considerable increase in milk price which more than compensated for the increase in variable costs. In 2022/23, at the average herd sizes, the total farm GM for lowland herds saw an increase to £527,845 compared with £323,145 in 2021/22, whilst the total LFA herd GM rose to £317,558 compared with £223,074 in 2021/22 (Table 3.8).

Chapter 1: The Dairying Sector

1.1: Overview

- During 2022/23, average milk price in the UK increased month on month to December, peaking at an average of 51.6 pence per litre (ppl), before decreasing to 43.6ppl in March 2023. This resulted in a yearly average price of 46.7ppl, which was 13.9ppl higher than the average milk price in 2021/22 (Figure 1.1 - Average Annual Milk Prices (UK)).

- 2022/23 saw an increase in each of the key input costs of feed, vet and medicines, fertiliser and energy costs, with fertiliser again seeing the most substantial rise (Figure 1.2 - Milk and Input Prices (UK)).

- UK annual milk production in 2022/23 decreased by 8 million litres (-0.053%) to 14,904 million litres; the second consecutive decrease in annual milk production (Figure 1.3 - Annual Milk Production (UK)).

- Average UK milk yield increased by 40 litres in 2022/23 to 8,133 litres per cow (lpc), not quite returning to the high average yield seen in 2020/21 (Figure 1.4 - Herd Size and Average Milk Yield (UK)).

- The UK national herd size reduced by 10,000 cows to 1,844,000 cows (Figure 1.4 - Herd Size and Average Milk Yield (UK)).

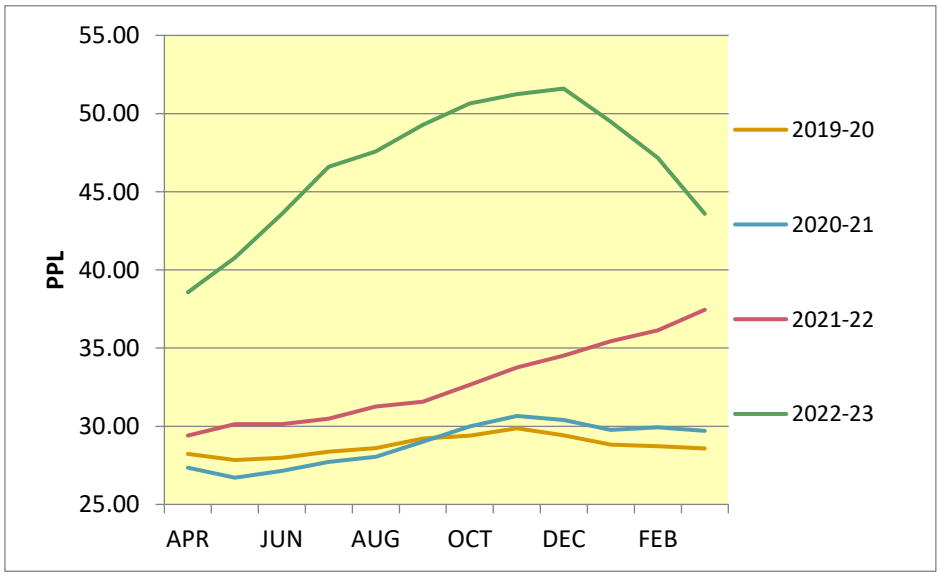
- In October 2023 there were approximately 332 fewer milk producers in England and Wales than a year earlier, continuing the trend of more than twenty years. Since October 2013, numbers have fallen by 3,112, a decrease of almost 30% (Figure 1.5 - Number of Milk Producers (England & Wales)).

Table 1.1: Average Annual Milk Prices (UK)

	2019/20	2020/21	2021/22	2022/23
Average annual price (ppl) (excluding bonus')	28.8	28.9	32.8	46.7

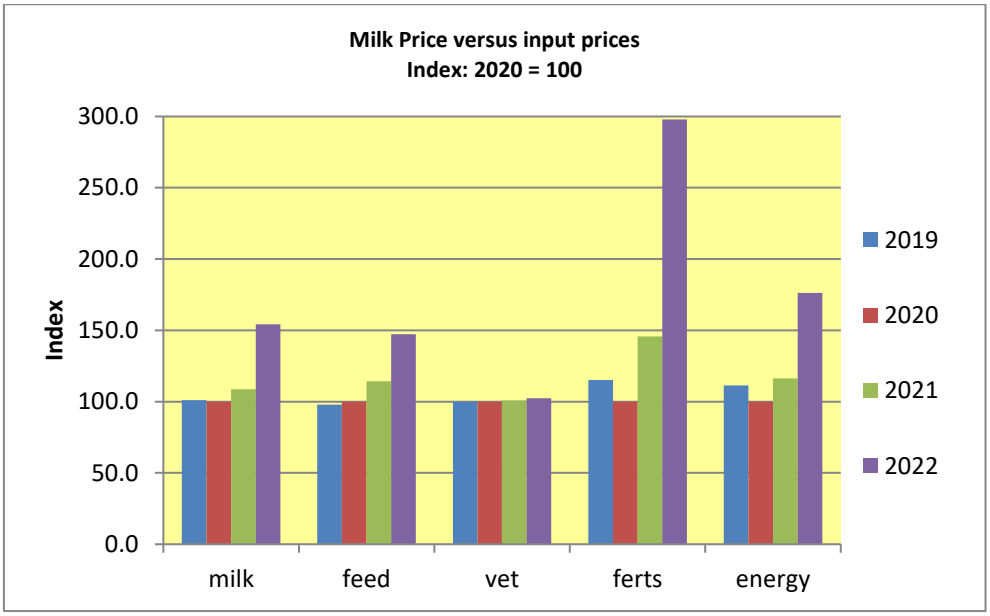
Source: Defra (2024a); Milk Price Surveys

Figure 1.1: Average Farmgate Milk Prices (UK)



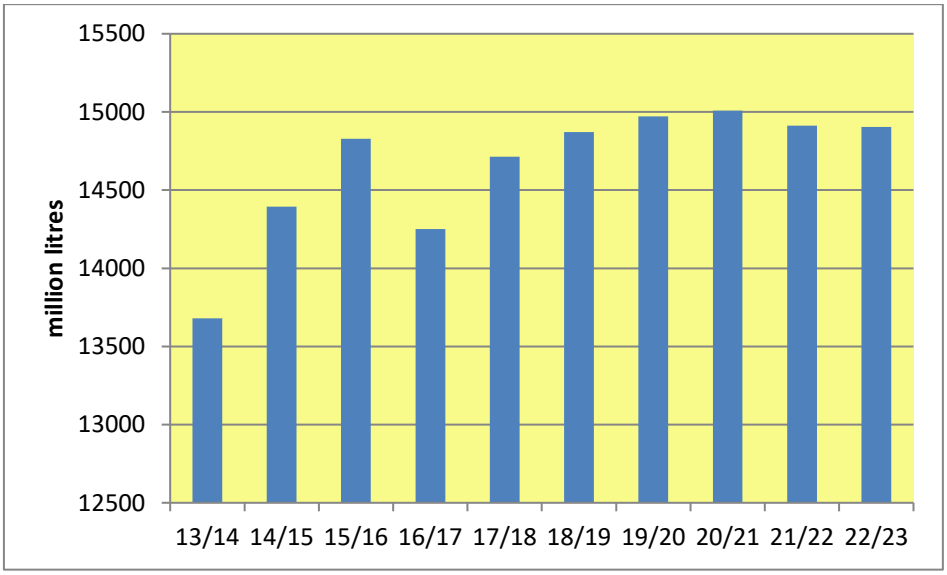
Source: Defra (2024b); Milk Price Surveys

Figure 1.2: Milk and Input Prices (UK)



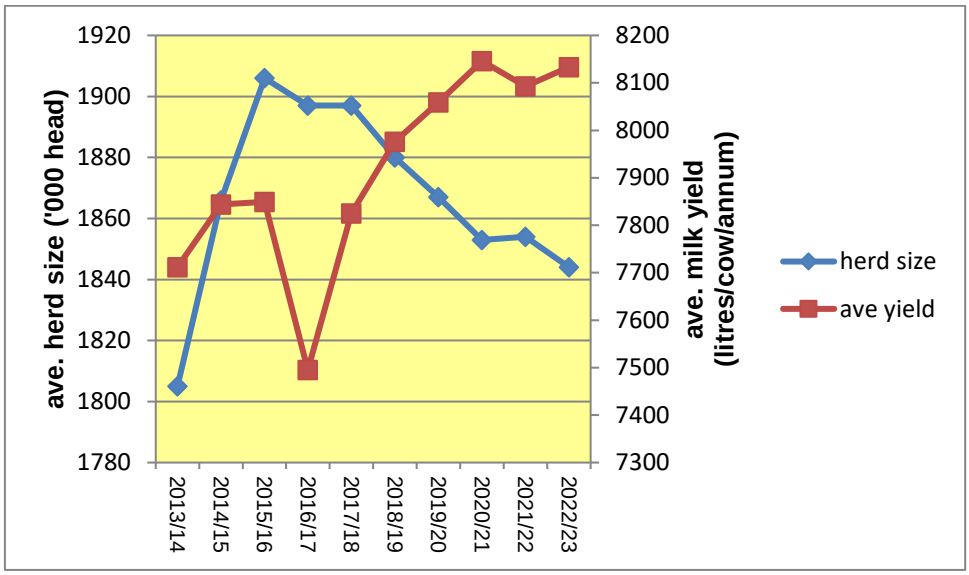
Source: Defra (2024c); Agriculture in the UK 2022

Figure 1.3: Annual Milk Production (UK)



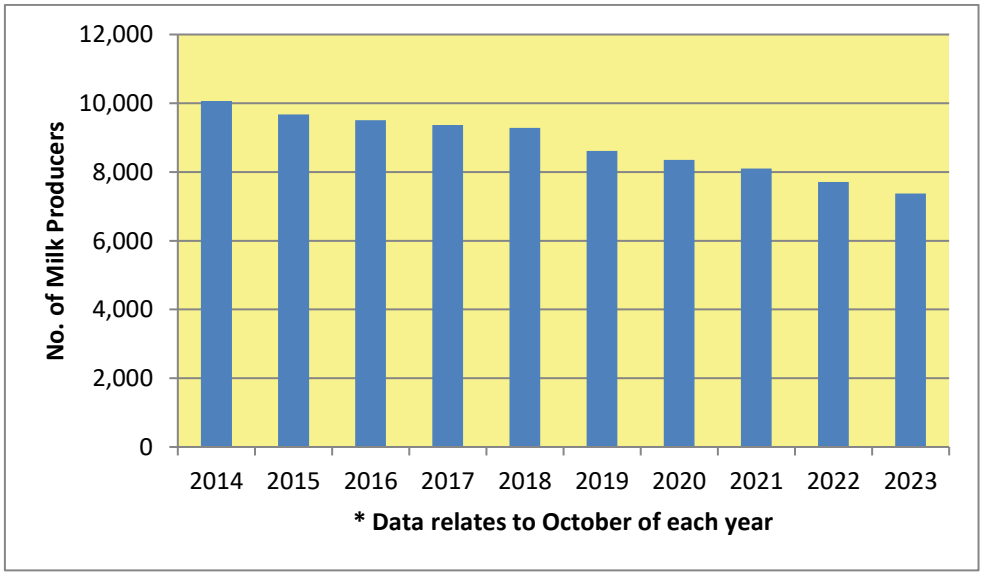
Source: AHDB Dairy (2024a)

Figure 1.4: Herd Size and Average Milk Yield (UK)



Source: AHDB Dairy (2024b) – based on milk year

Figure 1.5: Number of Milk Producers (England & Wales)



Source: AHDB Dairy (2024c)

1.2: Structure of Report

The above sections have described the market environment in which the dairy sector has been operating during the 2022/23 financial year, whilst making reference to the economic and market conditions over recent years. The remaining chapters of this report are as follows:

- Chapter 2 details the data source and data analysis undertaken
- Chapter 3 provides the results of the data analysis

Chapter 2: Data and Methodology

2.1: Data

The data used in this report are derived from the Farm Business Survey returns for England for those farms classed as Dairy Farms[1] and relate to the outputs, inputs and returns to each farm, together with total farm area and farm size data. The accounting period covered includes farms with a year end between 31st December 2022 and 30th April 2023. Table 2.1 below details the number of observations for the per hectare farm results, in each category by farm type (All, Lowland Conventional, Less Favoured Area (LFA) Conventional and Organic), by farm size categories and by lower and upper performance quartiles. Table 2.2 details the number of observations for the enterprise level results, in each category by farm type (All, Lowland Conventional, LFA Conventional and Organic), by herd size categories and by lower and upper performance quartiles.

From 2018/19, the classification of farms is based on 2013 standard output coefficients. The results published here are therefore not directly comparable with those published in earlier years which are based on previous standard output coefficients. For more information please see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/365564/fbs-uk-farmclassification-2014-21oct14.pdf"

Table 2.1: Observations by Category: FBS Farm-Level Data 2022/23***

Category		All	Lowland Conventional	LFA Conventional[1]	Fully Organic [2]
Number of farms		259	181	49	29
Farm Size	<60 hectares	-	11*	**	-
	60-120 hectares	-	56	19	-
	>120 hectares	-	114	26	-
Performance by ratio output:costs	Lower quartile	-	39	12*	-
	Upper quartile	-	49	8*	-

1. Holdings on which dairy cows account for more than two thirds of the total Standard Output for the farm. A holding is classified as a Less Favoured Area (LFA) holding if 50 percent or more of its total area is in the LFA and a lowland holding if less than 50 per cent of its total area is in the LFA.

2. In-conversion organic farms are included in the conventional groups.

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

** Insufficient data to publish results

*** farms with an area of less than 2ha have been excluded from the data set

Table 2.2: Observations by Category: Enterprise-Level Data 2022/23

Category		All	Lowland Conventional	LFA Conventional [1]	Fully Organic [2]
Number of farms		257	179	49	29
Farm Size	<80 cows	-	13*	6*	-
	80-130 cows	-	33	15	-
	>130 cows	-	133	28	-
Performance by GM/cow	Lower quartile	-	48	9*	-
	Upper quartile	-	39	16	-

1. Holdings on which dairy cows account for more than two thirds of the total Standard Output for the farm. A holding is classified as a Less Favoured Area (LFA) holding if 50 percent or more of its total area is in the LFA and a lowland holding if less than 50 per cent of its total area is in the LFA.

2. In-conversion organic farms are included in the conventional groups.

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

2.2: Methodology

The farm and enterprise level data were weighted using the Farm Business Survey weights and the subsequent results presented per hectare (farm level analysis) or per cow (gross margin analysis) basis. Descriptive results with the mean (average) for each category are reported as detailed in Chapter 3. Farms with an area of less than 2ha have been excluded from the data set.

From 2018/19, the classification of farms is based on 2013 standard output (SO) coefficients. The results published here are therefore not directly comparable with those published in reports in earlier years which are based on previous SO coefficients. For more information please see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/365564/fbs-uk-farmclassification-2014-21oct14.pdf"

Chapter 3: Results

3.1: Farm Level Results – FBS England, Dairy farms

- Farm Business Survey data from 2022/23 shows that the average Farm Business Income (FBI) from dairying was £1390/ha, which at the average farm size equates to a FBI in the region of £218,230, representing an increase in total FBI of almost 56% from 2021/22 (Table 3.1).

- Average FBI on conventional dairy farms in 2022/23 was £1447/ha (£230,073 per farm), whilst on organic farms average FBI was £564/ha (£75,012 per farm), resulting in an increase in total FBI per farm of over 58% for conventional farms and of almost 25% for organic farms total FBI per farm (Table 3.1).

- 2022/23 saw a narrowing in the gap between conventional and organic farms FBI; at £1447/ha, FBI/ha on conventional farms was almost 157% higher than on organic farms (£564/ha), compared with 2021/22 when FBI on conventional farms was 161% higher than organic farms (Table 3.1).

- Management and Investment Income (MII) across all dairy farms doubled from £540/ha in 2021/22 to £1080/ha in 2022/23. This equates to an average MII of £169,560 per farm, compared with £86,940 in 2021/22 (Table 3.1).

- Average MII on conventional dairy farms increased from £572/ha in 2021/22 to £1,141/ha (£181,419 per farm) in 2021/22; on organic farms average MII increased by almost 105%, from £102/ha to £209/ha (£27,797 per farm) (Table 3.1).

- Average FBI on lowland dairy farms was £1,489/ha, an increase of over 63% from £912/ha in 2021/22. For LFA dairy farms, average FBI increased by almost 44% to £1,269/ha (from £884/ha in 2021/22) (Table 3.2). At average size, this equates to a FBI on a farm level for lowland dairy farms of £239,729 and LFA dairy farms of £192,888 in 2022/23.

- Table 3.3 illustrates the reliance on Farmer / Spouse labour typically found on the smaller lowland dairy farms, i.e. less than 60 hectares, resulting in a familiar, substantially lower MII than was achieved for the two larger size groups presented. The smaller size group achieved a MII of £24/ha, compared with £815/ha and £1348/ha for the 60 to 120 hectares and greater than 120 hectares groups respectively.

- As previously reported, a regular feature of LFA income results shows that LFA dairy farms within the largest size group operated less intensive systems, achieving the lowest total farm output per hectare, whilst incurring the lowest variable and fixed costs. The respective FBIs at farm level for the less than 60 hectares, the 60 to 120 hectares and the greater than 120 hectares size groups are £72,856, £118,524 and £275,494.

- Profitability analysis for lowland farms reveals a further increase in the gap for FBI between the upper and lower quartiles in 2021/22; FBI for the upper quartile of lowland dairy farms was £2,483/ha (£1,596/ha in 2021/22) compared with £306/ha (£107/ha in 2021/22) for the lower quartile. The upper quartile group has a larger average farm size at 194ha, compared to 108ha for the lower quartile, with the upper quartile showing a further increase in farmed area this year, whilst there was a further decrease for the lower quartile (Table 3.5).

- An analysis of FBI by LFA quartile groupings reveals a narrowing gap in milk output; with the upper quartile achieving a milk output greater than the lower quartile by £763/ha (in comparison with £1,956/ha greater in 2021/22), due to a reduced milk output on the higher performing farms. Variable costs for the lower quartile increased by more than 29% to £1,478/ha, whilst the upper quartile variable costs decreased by more than 27% to £1,150/ha. At the average farm size, the lower and upper quartiles achieved FBI returns of £46,980 and £326,600 respectively (Table 3.6), furthering the gap in FBI compared with last year's figures of £29,601 and £295,682.

Table 3.1: Outputs, Inputs and Margins for All Farms, Conventional and Organic

	All		Conventional		Organic	
	21/22	22/23	*21/22*	22/23	*21/22*	22/23
Number of farms	*205*	259	*174*	230	*31*	29
Area (ha)[#]	*161*	157	*161*	159	*173*	133
	£/ha		£/ha		£/ha	
Output						
Milk	*3363*	4787	*3460*	4971	*2036*	2149
Calf	*202*	208	*206*	213	*137*	135
Other Dairy	*5*	0	*5*	0	*2*	2
Herd Replacement	*-277*	-283	*-285*	-290	*-161*	-177
Total Dairy Output	***3293***	**4713**	***3386***	**4895**	***2015***	**2108**
Other Livestock	*661*	681	*681*	692	*394*	519
Other	*638*	596	*651*	601	*456*	518
Total Farm Output	***4592***	**5990**	***4718***	**6188**	***2864***	**3144**
Variable Costs						
Home-grown Concentrates	*98*	83	*98*	79	*100*	131
Purchased Concentrates	*1076*	1408	*1109*	1462	*631*	623
Coarse Fodder	*91*	166	*94*	171	*54*	83
Other Livestock Concentrates	*2*	14	*3*	15	*0*	6
Vet and Medicine	*118*	123	*122*	127	*56*	57
Other Livestock Costs	*311*	366	*316*	374	*241*	240
Seed	*38*	41	*38*	43	*32*	20
Fertiliser	*107*	206	*114*	219	*10*	11
Crop Protection	*34*	39	*36*	41	*0*	0
Other Crop Costs	*23*	25	*24*	26	*11*	12
Total Variable Costs	***1899***	**2469**	***1955***	**2559**	***1134***	**1184**
Fixed Costs						
Labour	*512*	561	*525*	577	*339*	331
Contract	*215*	258	*221*	264	*142*	160
Machinery Depreciation	*191*	216	*196*	222	*119*	128
Other Machinery	*272*	342	*278*	352	*185*	202
Miscellaneous	*380*	451	*386*	460	*303*	327
Rent and Rental Equivalent	*364*	367	*368*	372	*316*	293
Total Fixed Costs	***1934***	**2195**	***1973***	**2247**	***1404***	**1441**
Net Farm Income	***759***	**1326**	***790***	**1382**	***326***	**519**
Farmer / Spouse Labour	*216*	246	*216*	241	*224*	310
Management and Investment Income (MII)	***540***	**1080**	***572***	**1141**	***102***	**209**
Farm Business Income (FBI)	***869***	**1390**	***907***	**1447**	***347***	**564**

The area used is the total farm area including woodland, roads, water, area not used for agriculture

Table 3.2: Outputs, Inputs and Margins: Lowland and LFA Farms

	Lowland		LFA	
	21/22	22/23	*21/22*	22/23
Number of farms	*119*	181	*55*	49
Area (ha)#	*163*	161	*152*	152
	£/ha		£/ha	
Output				
Milk	*3645*	5297	*2647*	3571
Calf	*213*	219	*178*	187
Other Dairy	*6*	0	*0*	0
Herd Replacement	*-299*	-299	*-224*	-252
Total Dairy Output	***3565***	**5219**	***2602***	**3506**
Other Livestock	*693*	704	*630*	642
Other	*721*	663	*344*	334
Total Farm Output	***4978***	**6586**	***3576***	**4482**
Variable Costs				
Home-grown Concentrates	*112*	86	*35*	50
Purchased Concentrates	*1160*	1553	*885*	1076
Coarse Fodder	*100*	191	*70*	89
Other Livestock Concentrates	*3*	19	*0*	0
Vet and Medicine	*128*	136	*97*	90
Other Livestock Costs	*332*	399	*246*	269
Seed	*45*	50	*10*	14
Fertiliser	*119*	230	*93*	175
Crop Protection	*42*	48	*10*	14
Other Crop Costs	*25*	29	*17*	14
Total Variable Costs	***2067***	**2738**	***1462***	**1790**
Fixed Costs				
Labour	*565*	619	*350*	395
Contract	*244*	294	*116*	137
Machinery Depreciation	*204*	240	*163*	148
Other Machinery	*297*	377	*193*	241
Miscellaneous	*404*	490	*305*	328
Rent and Rental Equivalent	*390*	385	*272*	320
Total Fixed Costs	***2104***	**2406**	***1398***	**1569**
Net Farm Income	***807***	**1442**	***716***	**1123**
Farmer / Spouse Labour	*211*	238	*236*	253
Management and Investment Income (MII)	***593***	**1204**	***480***	**869**
Farm Business Income (FBI)	***912***	**1489**	***884***	**1269**

The area used is the total farm area including woodland, roads, water, area not used for agriculture

Table 3.3: Outputs, Inputs and Margins: Lowland by Farm Size

Lowland	< 60 ha [small]		60 – 120 ha [medium]		>120 ha [large]	
	*21/22**	22/23*	*21/22*	22/23	*21/22*	22/23
Number of farms	*9**	11*	*51*	56	*59*	114
Area (ha) #	*46*	49	*89*	86	*215*	233
	£/ha		£/ha		£/ha	
Output						
Milk	*2617*	3704	*3570*	5215	*3682*	5379
Calf	*214*	204	*229*	240	*209*	215
Other Dairy	*7*	0	*2*	2	*7*	0
Herd Replacement	*-287*	-245	*-303*	-332	*-298*	-292
Total Dairy Output	***2550***	**3663**	***3498***	**5126**	***3599***	**5301**
Other Livestock	*595*	608	*640*	614	*707*	731
Other	*452*	354	*531*	692	*770*	668
Total Farm Output	***3597***	**4625**	***4669***	**6431**	***5077***	**6700**
Variable Costs						
Home-grown Concentrates	*36*	43	*60*	84	*126*	88
Purchased Concentrates	*824*	1119	*1177*	1569	*1162*	1565
Coarse Fodder	*55*	181	*76*	173	*106*	195
Other Livestock	*0*	0	*0*	0	*4*	24
Vet and Medicine	*114*	111	*116*	135	*132*	137
Other Livestock Costs	*312*	360	*338*	371	*331*	408
Seed	*6*	8	*33*	37	*48*	55
Fertiliser	*99*	107	*112*	200	*121*	242
Crop Protection	*7*	3	*27*	28	*47*	54
Other Crop Costs	*24*	14	*30*	34	*24*	28
Total Variable Costs	***1477***	**1946**	***1969***	**2631**	***2101***	**2796**
Fixed Costs						
Labour	*251*	369	*468*	648	*594*	621
Contract	*156*	209	*234*	238	*248*	312
Machinery Depreciation	*161*	176	*236*	292	*197*	229
Other Machinery	*233*	240	*271*	418	*305*	372
Miscellaneous	*545*	467	*489*	599	*381*	463
Rent and Rental Equivalent	*300*	294	*362*	361	*398*	394
Total Fixed Costs	***1646***	**1755**	***2060***	**2556**	***2123***	**2392**
Net Farm Income	***474***	**924**	***639***	**1244**	***853***	**1513**
Farmer / Spouse Labour	*903*	900	*420*	430	*149*	164
Management and Investment Income (MII)	***-429***	**24**	***219***	**815**	***701***	**1348**
Farm Business Income (FBI)	***754***	**1132**	***835***	**1394**	***934***	**1527**

The area used is the total farm area including woodland, roads, water, area not used for agriculture

* Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

Table 3.4: Outputs, Inputs and Margins: LFA by Farm Size

LFA	< 60 ha [small]		60 – 120 ha [medium]		>120 ha [large]	
	*21/22**	22/23**	*21/22*	22/23	*21/22*	22/23
Number of farms	*6*		*25*	19	*24*	26
Area (ha)[#]	*53*	*Ins data*	*92*	83	*211*	226
	£/ha		£/ha		£/ha	
Output						
Milk	*3461*		*2900*	4006	*2534*	3371
Calf	*307*		*225*	225	*159*	171
Other Dairy	*0*		*1*	0	*0*	0
Herd Replacement	*-375*		*-239*	-214	*-213*	-250
Total Dairy Output	***3392***		***2887***	**4017**	***2480***	**3292**
Other Livestock	*452*		*687*	634	*618*	656
Other	*403*		*352*	366	*339*	317
Total Farm Output	***4248***		***3925***	**5016**	***3437***	**4266**
Variable Costs						
Home-grown Concentrates	*74*		*37*	51	*33*	44
Purchased Concentrates	*1284*		*1014*	1333	*827*	968
Coarse Fodder	*163*		*85*	112	*61*	75
Other Livestock Concentrates	*0*		*0*	0	*0*	0
Vet and Medicine	*108*		*114*	112	*91*	83
Other Livestock Costs	*352*		*280*	294	*231*	262
Seed	*1*		*9*	6	*11*	17
Fertiliser	*132*		*96*	224	*90*	157
Crop Protection	*10*		*9*	10	*10*	15
Other Crop Costs	*13*		*12*	19	*19*	13
Total Variable Costs	***2136***		***1656***	**2162**	***1373***	**1633**
Fixed Costs						
Labour	*296*		*391*	441	*339*	378
Contract	*185*		*140*	150	*105*	137
Machinery Depreciation	*198*		*213*	207	*146*	125
Other Machinery	*264*		*231*	281	*177*	225
Miscellaneous	*443*		*351*	410	*285*	296
Rent and Rental Equivalent	*220*		*304*	405	*263*	296
Total Fixed Costs	***1606***		***1631***	**1894**	***1315***	**1457**
Net Farm Income	***506***		***638***	**961**	***750***	**1176**
Farmer / Spouse Labour	*648*		*376*	462	*175*	172
Management and Investment Income (MII)	***-142***		***262***	**499**	***575***	**1004**
Farm Business Income (FBI)	***811***		***971***	**1428**	***858***	**1219**

The area used is the total farm area including woodland, roads, water, area not used for agriculture

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures **Ins. data = Insufficient data available (<5 observations)

Table 3.5: Outputs, Inputs and Margins: Lowland by Profitability Quartiles

Lowland	Lower quartile		Upper quartile	
	21/22	22/23	*21/22*	22/23
Number of farms	*25*	39	*35*	49
Area (ha)[#]	*116*	108	*185*	194
	£/ha		£/ha	
Output				
Milk	*2990*	3647	*3508*	6414
Calf	*213*	168	*195*	273
Other Dairy	*1*	0	*12*	0
Herd Replacement	*-262*	-266	*-298*	-303
Total Dairy Output	***2943***	**3548**	***3417***	**6384**
Other Livestock	*506*	533	*785*	887
Other	*502*	610	*848*	535
Total Farm Output	***3951***	**4691**	***5049***	**7806**
Variable Costs				
Home-grown Concentrates	*58*	103	*130*	99
Purchased Concentrates	*1047*	1287	*946*	1614
Coarse Fodder	*74*	111	*66*	253
Other Livestock Concentrates	*5*	1	*0*	15
Vet and Medicine	*130*	112	*112*	160
Other Livestock Costs	*344*	484	*294*	426
Seed	*39*	41	*40*	38
Fertiliser	*120*	156	*133*	257
Crop Protection	*33*	33	*44*	37
Other Crop Costs	*18*	20	*20*	30
Total Variable Costs	***1869***	**2349**	***1785***	**2928**
Fixed Costs				
Labour	*530*	559	*517*	697
Contract	*228*	268	*168*	304
Machinery Depreciation	*166*	212	*174*	229
Other Machinery	*298*	347	*237*	336
Miscellaneous	*491*	471	*320*	470
Rent and Rental Equivalent	*364*	306	*393*	421
Total Fixed Costs	***2076***	**2163**	***1809***	**2456**
Net Farm Income	***6***	**180**	***1455***	**2422**
Farmer / Spouse Labour	*315*	403	*171*	203
Management and Investment Income (MII)	***-310***	**-224**	***1283***	**2220**
Farm Business Income (FBI)	***107***	**306**	***1596***	**2483**

The area used is the total farm area including woodland, roads, water, area not used for agriculture. The upper and lower quartiles represent the top and bottom 25% of the total population, which can produce sample numbers per quartile that are not equal.

Table 3.6: Outputs, Inputs and Margins: LFA by Profitability Quartiles

LFA	Lower quartile		Upper quartile	
	*21/22**	22/23*	*21/22**	22/23*
Number of farms	*13**	8*	*14**	12*
Area (ha)[#]	*117*	90	*163*	184
	£/ha		£/ha	
Output				
Milk	*1643*	2441	*3599*	3204
Calf	*145*	167	*234*	150
Other Dairy	*0*	0	*0*	0
Herd Replacement	*-198*	-241	*-246*	-213
Total Dairy Output	***1590***	**2367**	***3587***	**3140**
Other Livestock	*437*	356	*710*	494
Other	*334*	293	*395*	394
Total Farm Output	***2362***	**3016**	***4692***	**4028**
Variable Costs				
Home-grown Concentrates	*22*	51	*52*	38
Purchased Concentrates	*678*	880	*946*	702
Coarse Fodder	*64*	120	*36*	26
Other Livestock Concentrates	*0*	0	*0*	0
Vet and Medicine	*78*	68	*97*	55
Other Livestock Costs	*214*	178	*266*	153
Seed	*6*	6	*15*	15
Fertiliser	*68*	157	*135*	139
Crop Protection	*3*	3	*15*	12
Other Crop Costs	*9*	15	*20*	10
Total Variable Costs	***1142***	**1478**	***1581***	**1150**
Fixed Costs				
Labour	*251*	330	*429*	318
Contract	*116*	92	*148*	111
Machinery Depreciation	*120*	145	*149*	99
Other Machinery	*185*	220	*184*	159
Miscellaneous	*272*	308	*290*	251
Rent and Rental Equivalent	*181*	211	*328*	366
Total Fixed Costs	***1125***	**1306**	***1528***	**1304**
Net Farm Income	***95***	**232**	***1582***	**1574**
Farmer / Spouse Labour	*293*	474	*216*	207
Management and Investment Income (MII)	***-198***	**-242**	***1367***	**1368**
Farm Business Income (FBI)	***253***	**522**	***1814***	**1775**

The area used is the total farm area including woodland, roads, water, area not used for agriculture. The upper and lower quartiles represent the top and bottom 25% of the total population, which can produce sample numbers per quartile that are not equal.

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

3.2: Dairy Enterprise Results: Gross Margins – FBS England. Dairy farms

- Enterprise-level analysis in 2022/23 shows that the conventional herd total dairy output exceeded organic total dairy output by £1,535/cow. Conventional herd dairy output increased by £1,146/cow, with a slight decrease in yield (-23lpc) offset by a substantially higher milk price (+13.6ppl). Organic herds' total dairy output increased by £58/cow, with the decrease in milk yield (-959lpc) also being offset by a higher milk price (+8.9ppl). The average number of cows per herd increased by 14 cows for the conventional herd and decreased by 34 cows for the organic herd (Table 3.7).

- The lower organic dairy output was somewhat offset by lower variable costs, resulting in a gross margin of £1,352/cow compared with £2,245/cow for the conventional dairy herds. The difference between the organic and conventional dairy herd gross margins is wider than in 2021/22, whereby conventional herds produced a gross margin of £1,496/cow compared with the organic herd gross margin of £1,252/cow (Table 3.7).

- Whilst concentrate feed costs were considerably lower for the organic herds, the marginally higher milk price achieved resulted in organic herds achieving a margin over concentrate performance that only exceeded that of conventional herds by 0.22ppl, which was considerably lower than the previous year's excess of 3.42ppl (Figure 3.1).

- Lowland herds saw an increase in average milk price of 13.5ppl, whilst LFA herds saw an increase in average milk price of 13.9ppl; this offset the increases in variable costs and resulted in increases in GM/cow of £802 for lowland and £455 for LFA herds. In 2022/23, at the average herd sizes, the total farm GM for lowland herds was £527,845 compared with £323,145 in 2021/22, whilst the total LFA herd GM increased to £317,558 compared with £223,074 in 2021/22 (Table 3.8).

- For lowland herds in 2022/23, as herd size increases so does milk price, output/cow, total dairy output/cow and total gross margin/cow. Gross margins per cow for the less than 80 cows, the 80 to 130 cows and the greater than 130 cows groups were £1,239, £1,901 and £2,389 respectively. These margins per cow equate to gross margins per litre of 24.02ppl, 25.20ppl and 26.71ppl respectively, i.e. the smallest sized group achieved the lowest gross margin per litre (Table 3.9).

- For LFA dairy herds in 2022/23, milk price is lowest in the 80 – 130 cows group, with the highest dairy output and gross margin per cow being achieved by the more than 130 cows group. 2022/23 saw an increase in average milk price of 14.7ppl, 13.9ppl and 13.9ppl for the less than 80 cows, 80 – 130 cows and the more than 130 cows groups respectively. Each group saw a substantial increase in GM/cow, of £459/cow (less than 80 cows), £390/cow (80 – 130 cows) and £477/cow (more than 130 cows). The GMs for the LFA herd exceeded that of the lowland herd for the less than 80 cows by £315/cow, whereas for the 80 – 130 cows and the more than 130 cows groups the GMs for the conventional herds was greater than the LFA herds by £360/cow and £325/cow respectively (Table 3.10).

- In 2022/23, lowland dairy farms in the upper quartile (based on GM/cow) produced on average 4,707lpc more than those in the lower quartile, with average milk prices for the upper quartile exceeding those of the lower quartile by 1.7ppl (Table 3.11).

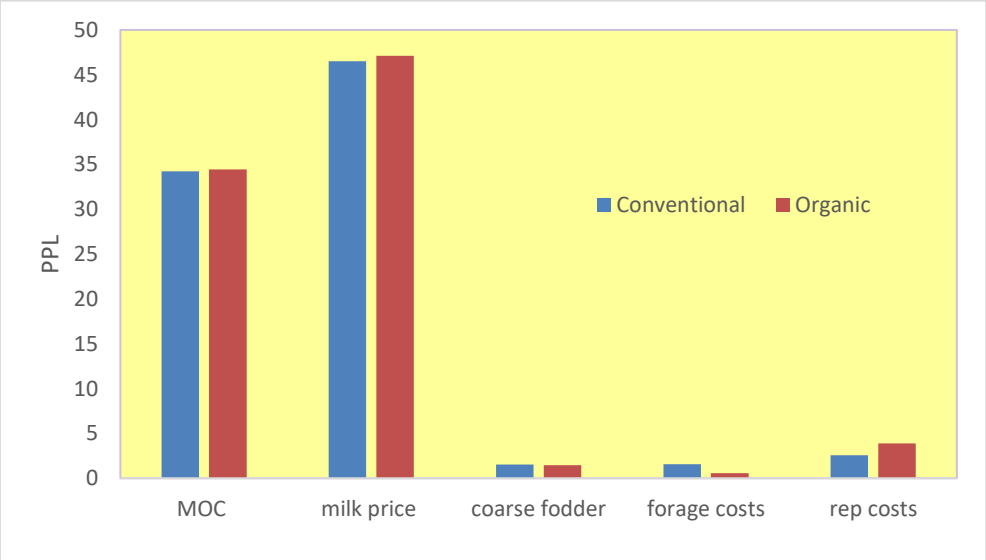
- Feed concentrate to milk conversion rates rose to 12.6ppl for the GM lowland upper quartile and to 12.4ppl for the lower quartile farms (from 9.3ppl for the upper quartile and 9.2ppl for the lower quartile in 2021/22); the upper quartile increase was due to a large increase in concentrate cost, whilst for the lower quartile the smaller increase in concentrate cost was coupled with a decrease in yield. Gross margin per litre results increased to 27.5ppl (upper quartile) and to 20.6ppl (lower quartile) compared to 19.7.0ppl (upper quartile) and 14.4ppl (lower quartile) in 2021/22 (Table 3.11), in part due to substantially higher average milk prices.

- Gross margin performance quartile analysis of LFA dairy farms reveals that the better performers have larger herds and achieve considerably higher yields (+4,200lpc) as well as receiving higher milk prices (+7.6 ppl) than the lowest quartile, leading to a disparity of £1,822 between the two quartile's relative gross margin per cow performances (compared with £1,039 in 2021/22) (Table 3.12).

Table 3.7: Gross Margin Results for All Farms, Conventional and Organic

	All		Conventional		Organic	
	21/22	22/23	*21/22*	22/23	*21/22*	22/23
Number of farms	*197*	257	*166*	228	*31*	29
Average number cows	*200*	209	*203*	217	*154*	120
Average yield (litres)	*8309*	8262	*8434*	8411	*5997*	5038
Milk price (ppl)	*33.1*	46.5	*32.9*	46.5	*38.2*	47.1
	£/cow		£/cow		£/cow	
Output						
Milk	*2748*	3842	*2772*	3911	*2292*	2372
Calf	*164*	164	*164*	165	*155*	149
Other Dairy	*4*	0	*4*	0	*3*	2
Herd Replacement	*-223*	-214	*-225*	-215	*-181*	-196
Total Dairy Output	***2692***	**3793**	***2715***	**3861**	***2268***	**2326**
Variable costs						
Concentrates	*792*	1013	*798*	1031	*680*	637
Coarse Fodder	*58*	127	*59*	129	*42*	73
Vet and Medicine	*78*	80	*79*	81	*51*	49
Other Livestock Costs	*198*	239	*197*	241	*207*	188
Forage Costs	*83*	128	*86*	133	*36*	28
Total Variable Costs	***1209***	**1587**	***1219***	**1616**	***1016***	**974**
Total Gross Margin	***1483***	**2206**	***1496***	**2245**	***1252***	**1352**

Figure 3.1: Key Gross Margin Components by Conventional and Organic Herds



MOC = margin over concentrates; rep costs = replacement costs

Table 3.8: Gross Margin Results: Conventional Lowland and LFA Farms

	Lowland		LFA	
	21/22	22/23	*21/22*	22/23
Number of farms	*115*	179	*51*	49
Average number cows	*215*	229	*153*	166
Average yield (litres)	*8517*	8690	*7932*	6861
Milk price (ppl)	*32.8*	46.3	*33.6*	47.5
	£/cow		£/cow	
Output				
Milk	*2790*	4028	*2663*	3259
Calf	*161*	164	*181*	171
Other Dairy	*5*	0	*0*	0
Herd Replacement	*-226*	-212	*-217*	-230
Total Dairy Output	***2730***	**3980**	***2628***	**3200**
Variable costs				
Concentrates	*803*	1066	*766*	835
Coarse Fodder	*59*	141	*58*	65
Vet and Medicine	*80*	84	*76*	67
Other Livestock Costs	*199*	250	*191*	195
Forage Costs	*87*	134	*79*	125
Total Variable Costs	***1227***	**1675**	***1170***	**1287**
Total Gross Margin	***1503***	**2305**	***1458***	**1913**

Table 3.9: Gross Margin Results: Conventional Lowland by Herd Size

Lowland	< 80 cows [small]		80 – 130 cows [medium]		>130 cows [large]	
	21/22	22/23*	*21/22*	22/23	*21/22*	22/23
Number of farms	*17*	13*	*24*	33	*74*	133
Average number cows	*62*	54	*105*	106	*259*	304
Average yield (litres)	*6313*	5159	*7620*	7545	*8667*	8945
Milk price (ppl)	*30.7*	44.6	*31.8*	45.8	*32.9*	46.4
	£/cow		£/cow		£/cow	
Output						
Milk	*1937*	2302	*2420*	3455	*2850*	4154
Calf	*146*	149	*172*	160	*161*	165
Other Dairy	*3*	0	*4*	3	*5*	0
Herd Replacement	*-211*	-187	*-228*	-230	*-227*	-211
Total Dairy Output	***1875***	**2264**	***2368***	**3388**	***2789***	**4108**
Variable costs						
Concentrates	*553*	604	*767*	1002	*814*	1090
Coarse Fodder	*29*	61	*31*	45	*63*	154
Vet and Medicine	*66*	51	*82*	90	*80*	84
Other Livestock Costs	*195*	210	*209*	217	*198*	255
Forage Costs	*84*	98	*79*	132	*87*	136
Total Variable Costs	***926***	**1025**	***1168***	**1487**	***1243***	**1719**
Total Gross Margin	***949***	**1239**	***1200***	**1901**	***1546***	**2389**

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

Table 3.10: Gross Margin Results: Conventional LFA by Herd Size

LFA	< 80 cows [small]		80 – 130 cows [medium]		>130 cows [large]	
	*21/22**	22/23*	*21/22*	22/23	*21/22*	22/23
Number of farms	*9**	6*	*19*	15	*23*	28
Average number cows	*54*	52	*107*	108	*215*	269
Average yield (litres)	*6051*	5706	*7587*	6633	*8193*	7041
Milk price (ppl)	*31.6*	46.3	*31.2*	45.1	*34.4*	48.3
	£/cow		£/cow		£/cow	
Output						
Milk	*1912*	2643	*2366*	2994	*2820*	3401
Calf	*187*	214	*192*	168	*177*	168
Other Dairy	*0*	0	*0*	0	*0*	0
Herd Replacement	*-120*	-143	*-214*	-247	*-225*	-233
Total Dairy Output	***1978***	**2713**	***2344***	**2914**	***2772***	**3336**
Variable costs						
Concentrates	*480*	615	*827*	988	*768*	808
Coarse Fodder	*61*	116	*46*	62	*62*	61
Vet and Medicine	*67*	78	*69*	55	*78*	69
Other Livestock Costs	*187*	177	*190*	155	*191*	209
Forage Costs	*87*	172	*59*	113	*86*	125
Total Variable Costs	***883***	**1159**	***1193***	**1374**	***1185***	**1272**
Total Gross Margin	***1095***	**1554**	***1151***	**1541**	***1587***	**2064**

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

Table 3.11: Gross Margin Results: Conventional Lowland by Performance Quartiles

Lowland	Lower Quartile		Upper Quartile	
	21/22	22/23	*21/22*	22/23
Number of farms	*36*	48	*23*	39
Average number cows	*146*	130	*287*	348
Average yield (litres)	*6007*	5790	*9735*	10497
Milk price (ppl)	*31.1*	45.0	*34.9*	46.7
	£/cow		£/cow	
Output				
Milk	*1869*	2608	*3395*	4899
Calf	*136*	148	*168*	183
Other Dairy	*2*	1	*8*	0
Herd Replacement	*-247*	-262	*-229*	-172
Total Dairy Output	***1759***	**2495**	***3343***	**4910**
Variable costs				
Concentrates	*554*	716	*907*	1325
Coarse Fodder	*53*	80	*103*	213
Vet and Medicine	*58*	63	*88*	99
Other Livestock Costs	*163*	320	*220*	264
Forage Costs	*67*	126	*103*	124
Total Variable Costs	***896***	**1304**	***1421***	**2025**
Total Gross Margin	***863***	**1191**	***1922***	**2885**

Table 3.12: Gross Margin Results: Conventional LFA by Performance Quartiles

LFA	Lower Quartile		Upper Quartile	
	*21/22**	22/23*	*21/22**	22/23
Number of farms	*12**	9*	*11**	16
Average number cows	*110*	149	*242*	199
Average yield (litres)	*6528*	4544	*8577*	8744
Milk price (ppl)	*30.1*	42.2	*35.8*	49.8
	£/cow		£/cow	
Output				
Milk	*1963*	1919	*3072*	4350
Calf	*174*	143	*171*	187
Other Dairy	*0*	0	*0*	0
Herd Replacement	*-228*	-318	*-217*	-201
Total Dairy Output	***1908***	**1744**	***3026***	**4336**
Variable costs				
Concentrates	*746*	476	*788*	1059
Coarse Fodder	*49*	56	*26*	29
Vet and Medicine	*73*	37	*78*	79
Other Livestock Costs	*171*	103	*201*	210
Forage Costs	*66*	86	*92*	149
Total Variable Costs	***1106***	**758**	***1186***	**1527**
Total Gross Margin	***802***	**987**	***1840***	**2809**

*Data are derived from a modest sample size and thus there is a lower degree of confidence in the figures

References

Defra (2024a) and Defra (2024b). Milk Price Surveys
https://www.gov.uk/government/statistics/uk-milk-prices-and-composition-of-milk
(as at 13/11/23)

Defra (2024c). Agriculture in the UK 2022
https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2022/chapter-6-prices#summary-table-of-price-indices
(as at 13/11/23)

AHDB Dairy (2024a)
https://ahdb.org.uk/dairy/uk-daily-milk-deliveries
(as at 13/11/23)

AHDB Dairy (2024b)
https://ahdb.org.uk/dairy/uk-milk-yield#.XKs3YZhKiUk
(as at 13/11/23)

AHDB Dairy (2024c)
https://ahdb.org.uk/dairy/GB-producer-numbers#:~:text=Overview,1.9%25%20on%20the%20previous%20year.
(as at 17/11/23)

Glossary

Output: Other Livestock is comprised of sales of non-dairy livestock and livestock products adjusted for valuation changes plus the value of produce used on the farm and consumed in the farmhouse or by the workers, less livestock purchases. Miscellaneous livestock receipts are also included.

Output: Other is the sales of crops adjusted for valuation changes, plus the value of produce used on the farm (other than forage crops and straw) and produce consumed in the farmhouse or by the workers. Income from land let and buildings let, hirework, non-allocated grants e.g. for environmental schemes, single farm payment, profit on resale of purchased agricultural produce and other miscellaneous farm income including the change in valuation of cultivations is also included.

Other livestock costs include livestock haulage, marketing charges, AI charges, straw and wood shavings for bedding and dairy sundries.

Other crop costs include silage bags, twine, all marketing costs including crop haulage, purchase of standing crops, soil analysis and potato sacks.

Labour is comprised of the gross cost of regular paid employees including an allowance for perquisites together with unpaid family labour (other than the farmer and spouse) manual labour.

Machinery depreciation is calculated using the current cost accounting method whereby each item of equipment is revalued by an index prior to the depreciation calculation.

Rent and Rental Equivalent consist of gross rent, imputed rent on the net cost of the tenant's own improvements, drainage rates and for owner-occupied land a rental value based on what a tenant would be paying for similar land with an equal length of occupancy.

Miscellaneous costs include water charges, vehicle tax, insurance, professional fees, bank commission, telephone charges, subscriptions, office expenses and pest control, general repairs.

Net Farm Income (NFI) is total output less total inputs as defined above. It represents the reward to the farmer and spouse for their own manual labour, management and a return on tenant's capital.

Farmer's and spouse's manual labour is the estimated value of their manual labour.

Management and Investment Income (MII) is Net Farm Income less the allowance made for the farmer's and spouse's manual labour. It represents the reward for management and a return on tenant's capital. MII therefore represents the return to management after all costs have been deducted, including the imputed cost of all unpaid manual labour and a notional rent on owner occupied land and buildings.

Farm Business Income (FBI) represents the return to all unpaid labour (farmers, spouses and others with an entrepreneurial interest in the farm business) and to all their capital invested in the farm business including land and farm buildings. It is defined as Total Farm Output (TFO) minus cost (C): where TFO is defined as the sum of output from: crop enterprises, adjustment for disposal of previous crops, livestock enterprises, separable non-agricultural diversification, single farm payment, agri-environmental payments, other grants and subsidies, miscellaneous receipts; C is defined as variable costs plus fixed costs. [*For 2006/07 the definition of FBI included the profit / loss on sale of assets as part of the total farm output*]

Total Gross Margin, presented for the dairy enterprise results, is total dairy output minus total variable costs.

Appendix 1: Reports in Series

Reports in this series:

Crop Production in England

Dairy Farming in England

Pig Production in England

Horticulture Production in England (Horticultural Business Data)

Lowland Grazing Livestock Production in England

Poultry Production in England

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