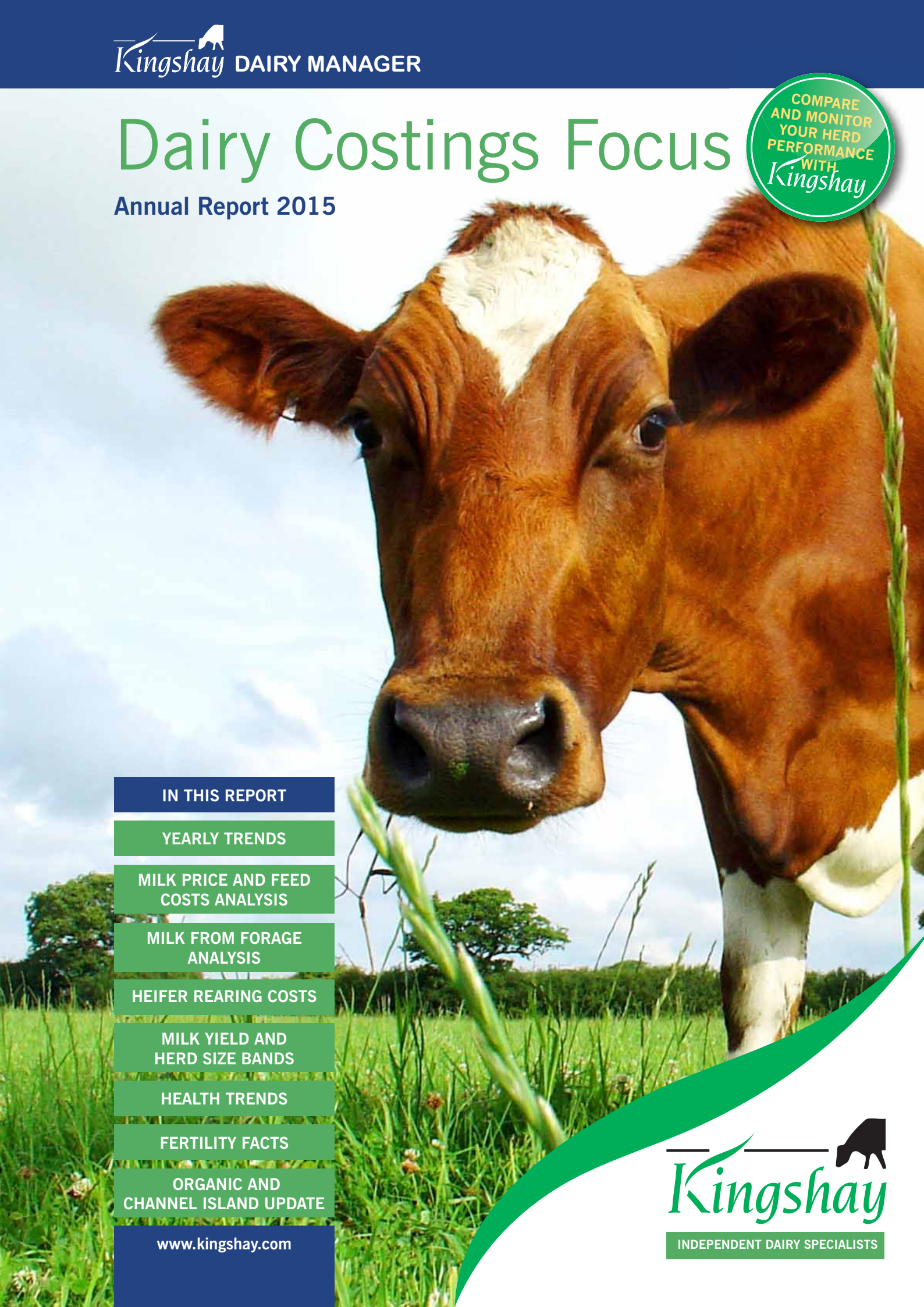
Kingshay DAIRY MANAGER

Dairy Costings Focus

Annual Report 2015

COMPARE AND MONITOR YOUR HERD PERFORMANCE WITH Kingshay



IN THIS REPORT

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INDEPENDENT DAIRY SPECIALISTS

Welcome

Few will argue with the fact that the past twelve months have been painful for many milk producers with unprecedented falls in milk price.

Just as we were beginning to enjoy a period with prices that yielded a reasonable profit, world supply went into overdrive while demand fell, led by China cutting back on imports and Russian embargoes. Prices began to nose dive in the second half of the milk year.

But it has been far from a level playing field (or should that be grazing platform?). In this report you will find data showing how the gap between the best and worst prices has become a yawning chasm.

Never has it been more important to manage the factors within your control, while understanding the effect of those beyond your control. The impact of the price cuts will have a long 'tail' with some commodities showing signs of uplift. What is clear is that there is a greater than ever need to ensure your herd is operating at maximum efficiency.

The Kingshay offices, Bridge Farm, Somerset

That's why we provide our **Dairy Manager** costings to measure your herd performance, set a budget and benchmark against other progressive herds. Add to this the technical notes and reports, independent advice and services available through our membership package and you have the complete tool box to ensure your business is firing on all cylinders.

We are proud that with nearly 25 years of experience, working with some of the most progressive producers across the UK, we can bring you independent and unbiased technical know-how and no-nonsense facts to help you exploit the full potential on your farm.

With our base at Bridge Farm, a commercial dairy farm on the edge of the Somerset Levels, you can be assured that we have our feet firmly on the ground and understand what makes today's dairy farmer tick!

Get in touch! Our team are keen to hear from you. They are just a call or a click away, and will happily advise on which Kingshay services are best suited to you, your farm and your aims.

Put us to the test! By joining, upgrading your membership or simply making an enquiry. We're here to help you forge a profitable future on your farm.

Duncan Forbes

Duncan Forbes, Managing Director

Contents

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Introduction

This year's Kingshay Dairy Costings Focus Report highlights the need to look beyond averages to understand the impact of current milk prices on some producers and the untapped potential for turning feed into milk efficiently.

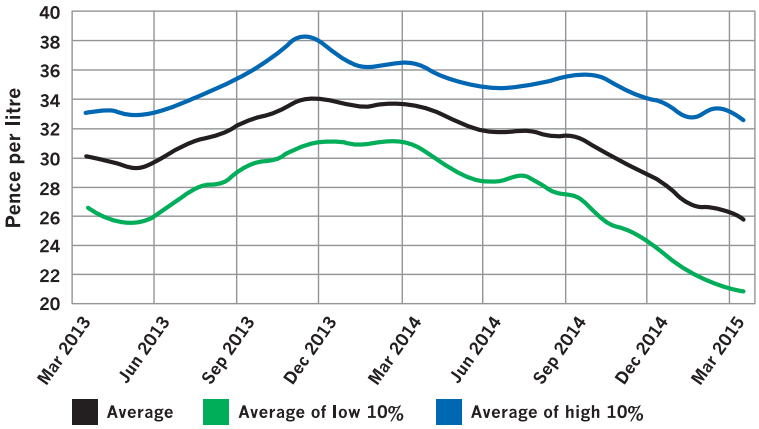
"The widening range of milk prices has had a major influence on margin over purchased feed costs per litre and per cow. "

With milk prices not beginning a steep decline until September 2014 and current market indications, it is apparent the relatively modest 2.1ppl **Dairy Manager** average milk price drop in the year to March 2015 does not fully reflect the fall that many producers have experienced (see pages 4/5).

Defra put the average milk price for the month of March 2015 at 25ppl a reduction of 6.5ppl on the same month in 2014, with Kingshay data giving a similar result. Yet analysis of **Dairy Manager** recorded conventional Holstein Friesian herds shows the lowest paid 10% of producers average price for March was just 21ppl, only two-thirds the amount received by the highest 10% paid at 32ppl.

With the gap between the highest and lowest 10% paid increasing from 5.6ppl to 11.6ppl as milk prices have fallen, it seems that UK market segmentation has come to the fore with oversupply on the World market. While the gap may close whenever prices rise again, it is as likely it will widen again with any future falls.

Milk prices – Conventional, Holstein Friesian herds



The widening range of milk prices has had a major influence on margin over purchased feed costs per litre and per cow. So much so, that looking at multiple herd comparisons in the year to March 2015 reflects milk price far more than feed efficiency.

This year the key efficiency analysis has been to rank herds by purchased feed cost per litre, which shows a range of costs from 5.1ppl to 11.2ppl between the highest and lowest 10% conventional Holstein Friesian herds. Wide gaps are also found between Channel Island herds and Organic herds.

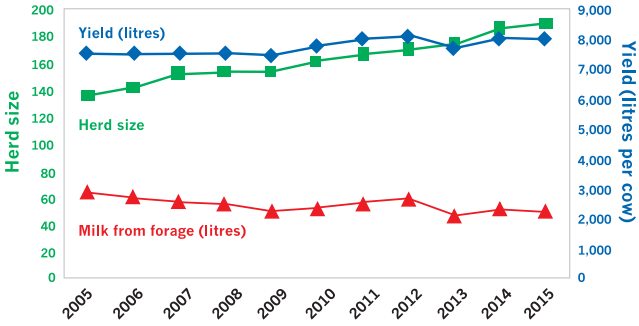
With each 1ppl cost equating to an annual £15,000 for a 1.5m litre herd, further analysis and rankings in this report help identify how some herds achieve lower feed costs, even those with high yields.

However, individual herds must review their own feed costs in relation to their milk price, making margin over purchased feed per litre and per cow important for every herd to appraise and monitor. These are easily monitored on a monthly basis by herds using **Dairy Manager**.

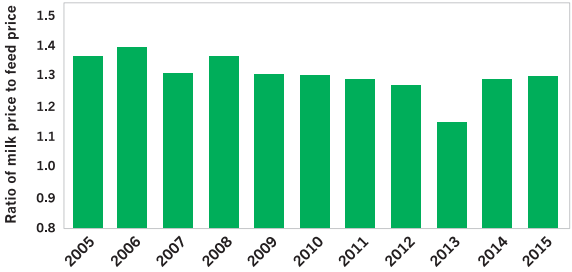
Trends over the last 10 years

Holstein Friesian herd sizes, milk prices, cow yields and margins are higher than 10 years ago, even following the recent decline in milk prices and margins, but there is little evidence of improvement in performance efficiency, according to **Dairy Manager** data.

Trends in milk production and efficiency



Trends in milk price: feed price ratio



The average herd size is now 41% larger than in 2005 with 189 cows and produces 51% more milk in total, at just over 1.5m litres. A 558 litre per cow (7%) yield increase contributes to this increase in total output.

Margins over purchased feed have risen by 7.4ppl and £669/cow since 2005, with the average milk prices rising by 11.7ppl. Feed costs have increased by 4.35ppl and at 8.37ppl in the 2015 results is equivalent to 28% of the milk price, compared with 22% in 2005. Concentrate feed rates have increased from 0.28kg per litre to 0.32 in 10 years, with milk from forage falling from 39% to 27%.

Often additional or marginal litres are justified by a predicted feed rate, of 0.4 to 0.5kg a litre, which in theory provides enough energy to produce a litre of milk.

However, this data shows that on average an extra 507kg per cow of concentrate equivalent has resulted in a yield per cow increase of only 558 litres a cow, meaning it has taken 0.9kg of feed to produce each additional litre.

At a concentrate price of £234 a tonne, each additional litre has cost 21 pence in feed, leaving a margin of only 9ppl on the average 30ppl milk price.

Achieving the technical performance of 2005 results, with the 2015 milk and feed prices, would see a 1.3ppl higher margin over purchased feed of 23ppl and a margin per cow just £27 a cow lower at £1,708. Even at margin per cow level, the data shows many herds will be gaining nothing from increasing yields from 10 years ago, because their feed use efficiency has declined.

Annual rolling results

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS Year ending March		2005	2015	Difference	% change
Cows in herd		134	189	54	41%
Stocking rate	cows/ha	2.17	2.27	0.10	4%
MILK PRODUCTION					
Yield per cow	litres	7,439	7,996	558	7%
Yield from all forage per cow	litres	2,872	2,187	-685	-24%
% of total yield from forage		39%	27%	-11%	-29%
Milk price	pence	18.36	30.08	11.72	64%
Total milk value per cow	£	1,365	2,405	1,040	76%
Milk price: conc. price ratio		1.37	1.29	-0.08	-6%
FEED					
Concentrate use per cow	kg	2,062	2,569	507	25%
Concentrate use per litre	kg	0.28	0.32	0.04	16%
Concentrate price per tonne	£	134	234	99	74%
Other purchased feed cost per cow	£	22	68	47	216%
Total purchased feed cost per cow	£	299	669	370	124%
Total purchased feed cost per litre	pence	4.02	8.37	4.35	108%
All purchased feed @ 86% equivalent per cow	kg	2,258	2,860	602	27%
MARGINS					
MOPF per cow	£	1,067	1,736	669	63%
MOPF per litre	pence	14.34	21.71	7.37	51%

Kingshay

Profit Manager allows you to control your costs, drive your profits and identify your costs of production right down to the bottom line.

Easy to use (even on a mixed enterprise farm) – the unique Kingshay cost allocation system means that you supply the raw data and we do the work.
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Developed by Kingshay in association with The Farm Consultancy Group Ltd

Milk price analysis

The average annual milk price drop in **Dairy Manager** results to March 2015 hides the effect oversupply on the World market and increasing UK market segmentation is having on some UK producers.

Kingshay's **HowsMyHerd®** consultants 'read' your cows to make your life easier and your farm more profitable – call us now to sign up for an assessment.

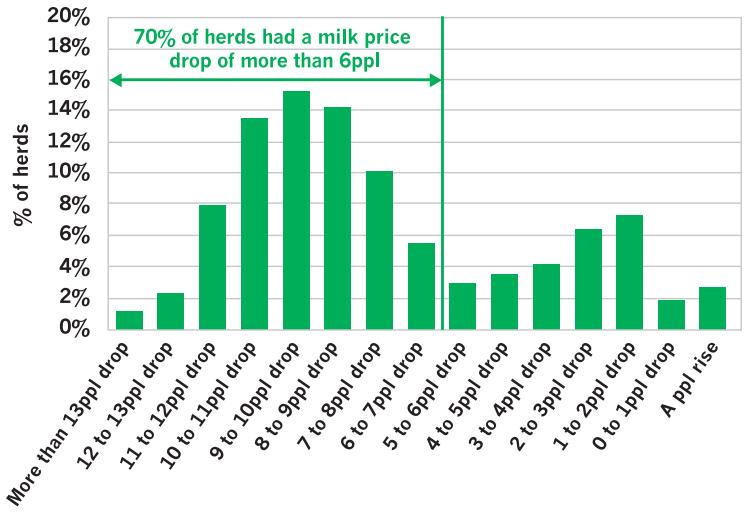
Further analysis shows 70% received at least 6ppl less for their milk in March 2015 than in March 2014 with an increasing gap between the highest and lowest paid.

The actual average price paid to conventional Holstein Friesian herds reduced by 2.1ppl over the year to March 2015 to 30.1ppl. But the highest paid 10% of herds' milk was sold at a price of 0.6ppl below the previous year at 33.8ppl, while the price for the bottom 10% was almost 3ppl lower than last year at 26.9ppl.

The annual prices for top and bottom paid herds still remained above the level for the year to March 2013, partly because the average price in March 2014 was at the highest level in five years. Milk prices didn't start what has become a continued steep fall until September 2014.

By March 2015 the milk price was at its lowest in five years and it appears likely to remain low into summer 2015, therefore, the 12 month rolling prices for all producers can be expected to fall further and those on lower priced processing contracts will continue to be hardest hit.

Milk price change from March 2014 to March 2015

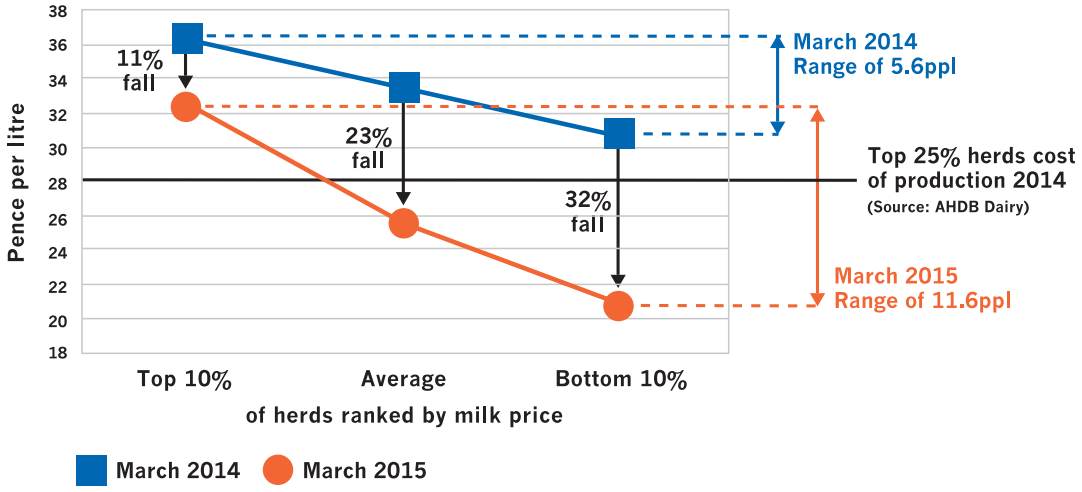


Best vs lowest milk price contracts – calculated based on a level supply of a standard litre

Year ending		Mar 11	Mar 12	Mar 13	Mar 14	Mar 15
Top	ppl	29.01	32.07	33.57	34.52	34.41
Bottom	ppl	23.81	27.11	27.78	31.88	20.99
Difference	**ppl**	**5.19**	**4.96**	**6.29**	**2.64**	**13.42**

Source: AHDB Dairy

March milk price fall



For 25% of herds the drop in price from March 2014 to March 2015 was more than 10ppl, with 70% of herds seeing a drop of more than 6ppl.

But for some herds the change in price has been small and the monthly trend in milk prices for top 10% and bottom 10% herds shows a widening gap between them since milk prices started to fall. By March 2015 there was a gap of 11.6ppl between them, compared with 5.6ppl a year before.

AHDB Dairy predictions on the best v lowest price milk contracts for a standard litre indicate this gap could widen further, as it shows a gap of more than 13ppl will result in the year from March 2015 if there are no changes to contract pricing.

The lowest paying contracts offer just 21ppl, which is 9ppl below the average for the year to March 2015 and for the current Kingshay bottom 10% this could indicate a drop of up to 6ppl in their 12 month rolling price by March 2016, unless market conditions improve.

Ranking **Dairy Manager** for calving season shows spring calving herds are among those likely to be hardest hit by lower milk prices in the current year to March 2016.

The data shows that their average annual milk price to March 2015 was 31.5ppl compared with autumn calving herds, which typically show a lower milk price at 29.6ppl, because their peak output was during the higher milk prices of spring and early summer 2014 before prices began their steep decline in Autumn 2014.

Trends in milk prices for Organic herds and Channel Island herds can be found on pages 19 and 20.

Feed costs per litre

When herds are ranked by purchased feed costs per litre, a 6.1ppl gap is revealed between the highest and lowest 10%.

"...further analysis shows there is potential to manage feed costs and achieve a higher margin per cow with high yielding cows."

Annual results – Year end March 2015 (Ranked by purchased feed costs)

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Highest 10%	Highest 25%	Average	Lowest 25%	Lowest 10%
Cows in herd		218	218	189	159	170
Stocking rate	cows/ha	2.23	2.30	2.27	2.18	2.18
MILK PRODUCTION						
Yield per cow	litres	8,830	8,752	7,996	7,057	6,662
Yield from all forage per cow	litres	533	1,002	2,187	3,298	3,610
Milk price	pence	30.32	30.31	30.08	29.97	30.22
FEED						
Concentrate use per cow	kg	3,447	3,274	2,569	1,783	1,488
Concentrate use per litre	kg	0.39	0.37	0.32	0.25	0.22
Concentrate price per tonne	£	244	242	234	227	223
Other purchased feed cost per cow	£	149	125	68	20	10
Total purchased feed cost per litre	pence	11.21	10.47	8.37	6.00	5.12
All purchased feed @ 86% equivalent per cow	kg	4,040	3,772	2,860	1,893	1,551
MARGINS						
MOPF per cow	£	1,687	1,736	1,736	1,691	1,672
MOPF per litre	pence	19.11	19.84	21.71	23.97	25.10

Herds in the 10% band for highest feed costs spend 11.2ppl which is more than double that of herds in the lowest 10% band. The gap between the highest and lowest 25% is 4.5ppl.

These results appear independent of milk price, with a similar price seen across all bands, and show scope for herds at a range of yields to reduce feed costs, with each 1ppl saving worth £15,000 for an average **Dairy Manager** herd producing 1.5m litres.

There is the expected trend for higher yields to be associated with higher feed costs, with top 10% herds producing 834 litres more than the average. But higher feed costs on average wipe out any benefit on margin over purchased feed per cow, with all the extra milk value spent on feed. However, further analysis shows there is potential to manage feed costs and achieve a higher margin per cow with high yielding cows (***see page 13***).

Highest 10% feed cost herds are also seen to produce lower constituent quality milk and only produce 533 litres from forage, despite only having a slightly higher stocking rate than lowest cost herds which produce 3,610 litres from forage.

It is clear from the ranking of herds by milk from forage that a significant proportion of the variation in feed costs relates to milk produced from forage, with herds producing 8,000 litres at a 6ppl feed cost, but there is additional variation of about 1ppl which this does not account for.

Profit Manager data shows the lowest feed cost herds will have slightly higher forage costs associated with growing more, but a 1.5m litre herd in the lowest 10% purchased feed cost band will have spent £91,000 less than the highest 10%. High feed costs herds also feed almost 3.5t of concentrate a cow, so it is also likely that they have a higher cost feeding system.

Analysis of the results to be published in Kingshay's ***Cows In or Out Survey*** will allow further insight into the feed costs of different production systems to be identified.

Milk from forage

Top 10% herds, ranked on milk from forage, continue to achieve 4,000 litres from forage on close to a 8,000 litre average yield, but all bands by this ranking show poorer forage use than the previous year.

Annual results – Year end March 2015 (Ranked by milk from forage)							
HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Top 10%	Top 25%	Average	Bottom 25%	Top 25% – last year	Average – last year
Cows in herd		154	161	189	230	152	183
Stocking rate	cows/ha	2.07	2.17	2.27	2.34	2.25	2.33
MILK PRODUCTION							
Yield per cow	litres	7,982	7,860	7,996	8,461	7,729	7,927
Yield from all forage per cow	litres	4,002	3,536	2,187	705	3,603	2,266
Milk price	pence	30.18	30.23	30.08	30.20	31.88	31.86
FEED							
Concentrate use per cow	kg	1,898	2,047	2,569	3,170	1,974	2,490
Concentrate use per litre	kg	0.24	0.26	0.32	0.37	0.26	0.31
Concentrate price per tonne	£	238	236	234	230	258	256
Other purchased feed cost per cow	£	29	31	68	127	31	77
Total purchased feed cost per litre	pence	6.02	6.56	8.37	10.11	6.99	9.02
All purchased feed @ 86% equivalent per cow	kg	2,006	2,165	2,860	3,746	2,086	2,802
MARGINS							
MOPF per cow	£	1,928	1,860	1,736	1,700	1,924	1,811
MOPF per litre	pence	24.16	23.67	21.71	20.09	24.90	22.85

The average herd produced 79 litres less from forage than the year to March 2014 at 2,187 litres, with the bottom 25% herds producing 116 litres less from forage at just 705 litres.

There is a trend of feeding more concentrate per cow, perhaps encouraged by the £22/tonne reduction in average concentrate price to £234/tonne, since the year to March 2014, and this has increased yield a cow.

Top 25% herds fed 73kg more concentrate and saw 131 litres a cow extra output, a response rate of 1.8:1, whereas, the bottom 25% saw a far poorer response rate to extra concentrate with 134kg of extra concentrate only resulting in 79 litres extra milk, a response rate of 0.6:1.

Changes in concentrate price are the main contributor to the gap in margin over purchased feed between top 25% and bottom 25% reducing to 3.6ppl from 3.9ppl in the previous year, with an almost identical milk price achieved. However, this still equates to £54,000 for a typical **Dairy Manager** herd, producing 1.5m litres a year.

Top 10% herds gain a further 0.5ppl in margin over feed, worth £7,500 for the typical herd.

This ranking highlights the potential of using forage better as a way to tackle purchased feed costs, with differences of more than 4ppl seen on these rankings and with yield level having less impact than may be expected.

However, forage production costs can also vary widely, with crop choice, input level and crop and ensiling management, all having an impact on yields and costs per kg of dry matter produced (see Kingshay's ***Forage Costings Report*** for details of all the most widely used forages).

Regional analysis

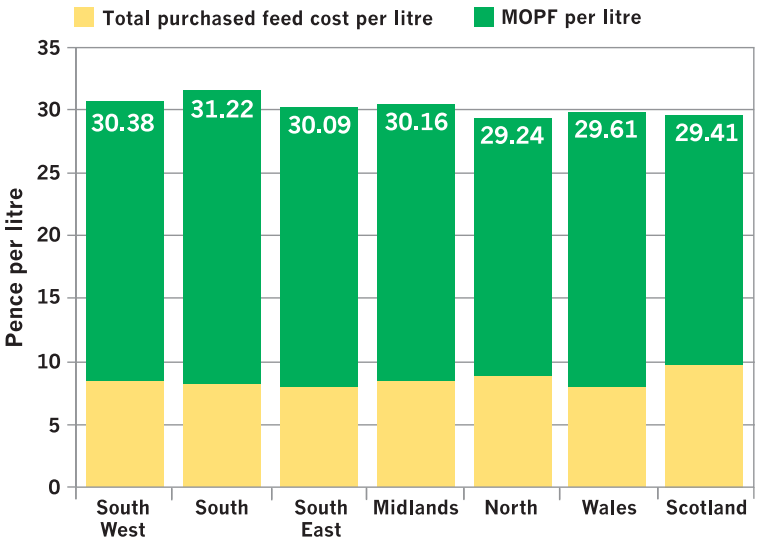
The North and Scotland regions have seen large reductions in rolling average milk prices of more than 2ppl in the year to March 2015 and they continue to have the lowest milk prices, according to Dairy Manager data.

However, both these regions have reduced feed costs more in the past year than other regions, saving them about 1ppl on average.

The range in milk price across the regions has widened from 0.99 ppl from best to worst to 1.98 ppl with the South region topping the charts in both years.

The fall in margin over purchased feed over the year has ranged from 0.9 to 2.0ppl across all regions.

Milk prices, feed costs and margins by region



Annual results – Year end March 2015

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		South West	South	South East	Midlands	North	Wales	Scotland
Cows in herd		183	192	198	205	170	174	214
Stocking rate	cows/ha	2.11	2.24	2.70	2.40	2.27	2.22	2.25
MILK PRODUCTION								
Yield per cow	litres	7,828	8,193	8,084	8,070	8,368	7,604	8,439
Yield from all forage per cow	litres	2,443	2,509	2,516	2,006	1,819	2,405	900
Milk price	pence	30.38	31.22	30.09	30.16	29.24	29.61	29.41
Change on last year	pence	-2.01	-1.51	-2.60	-2.02	-2.59	-2.13	-2.33
FEED								
Concentrate use per cow	kg	2,497	2,470	2,454	2,623	2,787	2,382	2,972
Concentrate use per litre	kg	0.32	0.30	0.30	0.33	0.33	0.31	0.35
Concentrate price per tonne	£	239	234	231	230	232	232	231
Other purchased feed cost per cow	£	55	80	63	71	84	50	131
Total purchased feed cost per litre	pence	8.33	8.04	7.78	8.36	8.73	7.94	9.68
Change on last year	pence	-0.38	-0.62	-0.56	-0.45	-0.79	-0.50	-0.85
MARGINS								
MOPF per cow	£	1,726	1,899	1,803	1,759	1,716	1,647	1,665
MOPF per litre	pence	22.05	23.18	22.31	21.08	20.51	21.67	19.73
Change on last year	pence	-1.63	-0.90	-2.04	-1.57	-1.80	-1.63	-1.48

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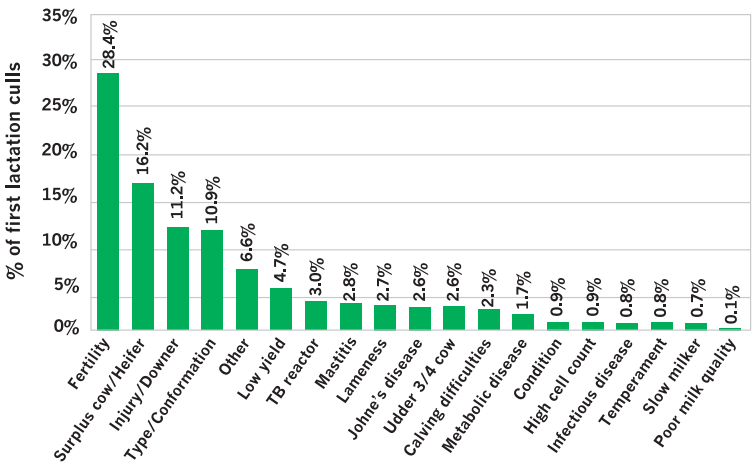
Heifer rearing

Achieving a target of calving replacement heifers at 24 months would save an average sized herd £12,348 on rearing costs.

Reasons for first lactation cows leaving herd



Costs summary (£ per Heifer reared)	Calving at 24 months	Calving at 30 months	Calving at 36 months
Total	£1,358	£1,682	£1,988

Kingshay data shows the average age for heifers at first calving is 28.8 months, which aligns with data available from NMR.

The difference in costs between rearing a heifer to calve at 24 months and 36 months, calculated using **Profit Manager** figures, is £630 or £52.50 a month on average. Therefore, each heifer calving at 28.8 months has typically cost an extra £252 compared with calving at 24 months.

An average Kingshay **Dairy Manager** herd of 189 cows, with an average replacement rate of 26%, has to rear 49 heifers a year. Therefore, an average herd could reduce rearing costs by up to £12,348 a year by reducing the calving age to 24 months. An average sized herd currently calving at 36 months could save £30,870 by reducing the calving age to 24 months. However, calving at 24 months requires liveweight gain targets for the different stages of growth to be met and managed carefully. Research into heifer rearing in the US, shows benefits from increasing daily liveweight gains up to weaning, but warns that too high a growth rate in the pre-puberty period can be detrimental to milk yields.

It's also vital that heifers are well enough grown to be able to perform well and get back in calf, with **Dairy Manager** data showing 14.7% leave the herd during their first lactation. Infertility is the main reason accounting for 28% of heifers leaving the herd, yet well managed these younger animals should have good fertility results.

For more information on rearing heifers to calve at 24 months see the latest Kingshay ***Farming Notes*** and ***Youngstock Management Report***.

Dairy Manager Heifer Sourcing

- 93% of herds rear their own replacements or contract out the rearing.
- 7% of herds are flying herds buying in replacements.

Kingshay DAIRY MANAGER

First two months FREE OF CHARGE*

Dairy Manager, the UK's leading dairy costings service enables you to track your costs and your herd health status.

Our various packages (detailed below) include options for targeted reports, meaning you can create and monitor regular production forecasts, highlight key health issues, compare yourself to similar herds and calculate your bottom line profit.

Call the Kingshay hotline on **01458 851555** for more information or register today at **www.dairymanager.net**

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Monitor your margins monthly

- **Monthly report**: Track your herd performance and margins month to month and year to year. Plot your herd on the Kingshay Milk Map.
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- **Annual summary**: Analyse the annual performance of your herd.

INDEPENDENT COSTINGS
Dairy Manager

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- **Calves, culls and replacements**: Quarterly report tracking the cost of replacements.
- **Milk profile report**: Forecast production and monitor your progress month by month.
- **Annual feed summary**: Compare your costs of purchased feeds to other herds in your region.

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*First two months FREE OF CHARGE does not apply to Profit Manager.

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Includes **Starter** and **Regular** packages, plus:

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PREMIUM PLUS

Includes **Starter**, **Regular** and **Premium** packages, plus:

- **Profit Manager**: Quarterly reports detailing all income and production costs for your herd.
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- Shows all costs in total £, pence per litre, £ per cow or £ per hectare.
- **Easy to use**: Uses figures from end of year accounts.

TRACK BOTTOM LINE PROFIT
Premium Plus

Input price analysis: feed, fertiliser and fuel

Reducing milk prices, which have fallen steeply since September 2014, have knocked back the affordability of key inputs in the six months to March 2015.

"Fertiliser costs have remained similar since the steep increase of early 2011, with about a £10 per tonne decrease in the past year."

The three main costs that fluctuate on dairy farms are the three 'f's (feed, fertiliser and fuel). The chart below shows feed prices in relation to the milk price on a £ per tonne basis.

Volatility has clearly been a feature over the past decade, however, the fall in milk price has been steeper than input prices in the past year. Milk has fallen 22% while concentrates have fallen only 11% making the milk price to concentrate price ratio one of the worst in ten years, requiring 0.93 of a tonne of milk to buy 1 tonne of concentrate. A year ago that ratio was 0.75:1.

It is interesting to note that commonly used raw materials, soya down 19% and rapeseed meal down 15%, have fallen in price more than concentrates suggesting that straights users may have seen less of an impact on their margins than those using solely concentrates.

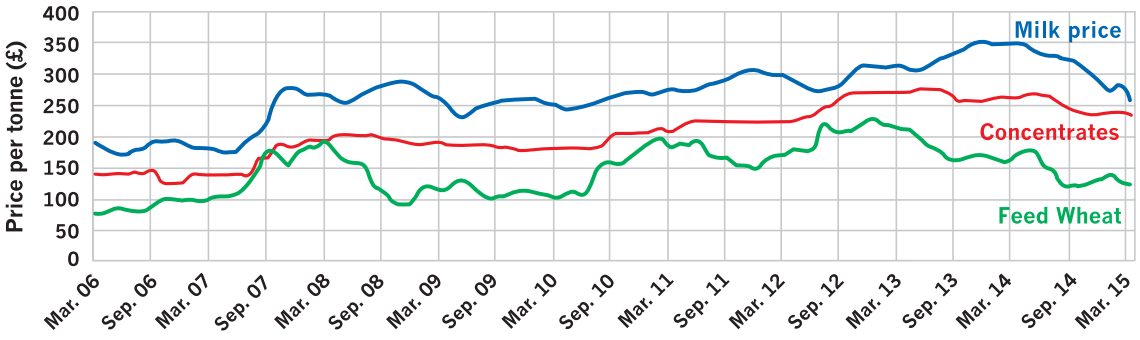
Fertiliser costs have remained similar since the steep increase of early 2011, with about a £10 per tonne decrease in the past year. Monthly fuel prices for red diesel were 22% lower in March 2014 than March 2015, having been even lower in Feb 2015. Lower fuel costs are helping to keep the ratio to milk price relatively stable.

Profit Manager data shows the most profitable herds have lower costs on most inputs, indicating a focus on the relationship between costs and profits is worthwhile.

However, predicting the global market for milk price or key commodities is increasingly difficult. More use of forward contracts, may not eliminate the volatility of input costs completely, but may help increase the accuracy of budgets and stability of the business. As opinion hardens that milk price volatility is to be an increasing feature in the years ahead, the need for a futures market for milk becomes more urgent to enable producers to hedge at least some of their supply against price instability.

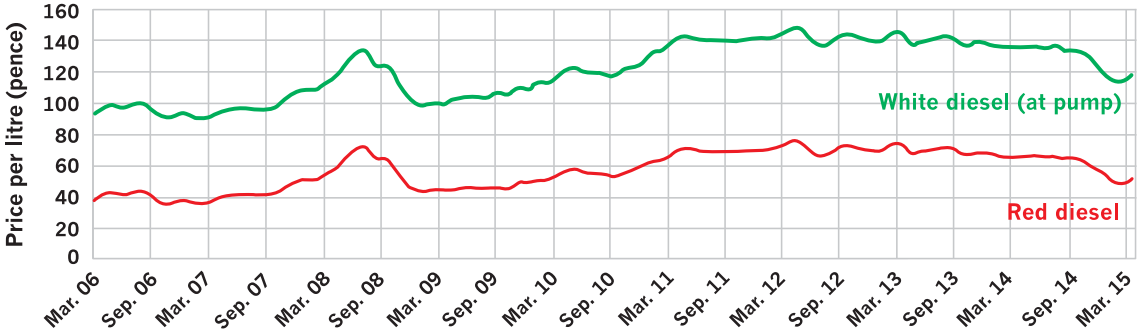
Feed prices vs milk price

Source: AHDB Dairy



Fuel prices

Source: AHDB Dairy



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Milk yield bands

Feed costs per litre rise in relation to yield. Herds under 6,000 litres on average spend 6.9ppl compared with those above 9,000 litres spending 9.3ppl, a 2.4ppl difference, when herds are analysed by yield band.

Annual results – Year end March 2015

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Up to 6000 litres	6000 to 7000 litres	7000 to 8000 litres	8000 to 9000 litres	Over 9000 litres
Cows in herd		121	152	173	199	241
Stocking rate	cows/ha	2.20	2.11	2.24	2.30	2.39
MILK PRODUCTION						
Yield per cow	litres	5,408	6,537	7,525	8,475	9,767
Yield from all forage per cow	litres	2,214	2,412	2,345	2,200	1,841
Milk price	pence	29.47	29.75	29.95	30.21	30.46
FEED						
Concentrate use per cow	kg	1,562	1,925	2,360	2,779	3,308
Concentrate use per litre	kg	0.29	0.29	0.31	0.33	0.34
Concentrate price per tonne	£	231	231	234	234	236
Other purchased feed cost per cow	£	14	28	46	75	128
Total purchased feed cost per cow	£	375	473	599	725	908
Total purchased feed cost per litre	pence	6.93	7.24	7.96	8.55	9.30
All purchased feed @ 86% equivalent per cow	kg	1,636	2,087	2,581	3,097	3,808
MARGINS						
MOPF per cow	£	1,219	1,472	1,654	1,835	2,067
MOPF per litre	pence	22.54	22.52	21.99	21.66	21.16

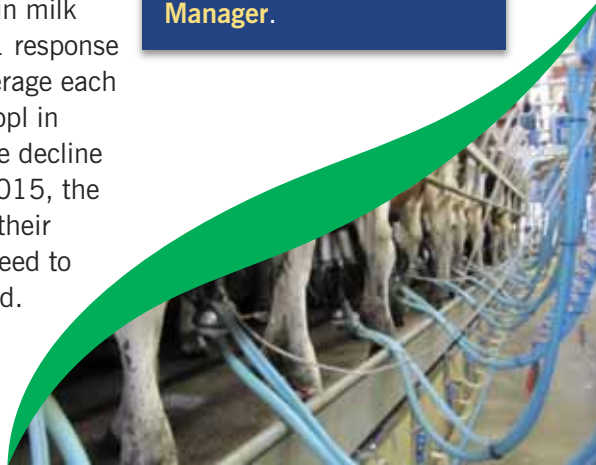
This supports the theory that for some, but certainly not all, the increase in feed costs between herds using **Dairy Manager** is related to yield level. This analysis also indicates where feed costs are well controlled there is an opportunity for a higher margin per cow at higher yields, which can be important in overall farm profitability and return on capital invested.

The over 9,000 litre herds show a £848 higher margin over purchased feed per cow than the under 6,000 litre herds, but it is important to note that the highest yield band also has a 1ppl higher milk price.

With feed prices reducing, all yield bands have seen feed costs fall by between 0.5 to 0.8ppl, compared with the year to March 2014.

Feed use has varied little compared with the previous year. Bands below 9,000 litres show little change in yield per cow as a result, although the 9,000 litre plus herds have fed 82kg a cow more concentrate, resulting in an 81 litre increase in milk yield a cow. This 1:1 response rate indicates on average each extra litre cost 23.6ppl in feed. If the milk price decline continues through 2015, the economic benefit of their marginal litres will need to be carefully examined.

If you have an existing **Dairy Manager** package you might consider upgrading to our Premium option to include **Health Manager**.

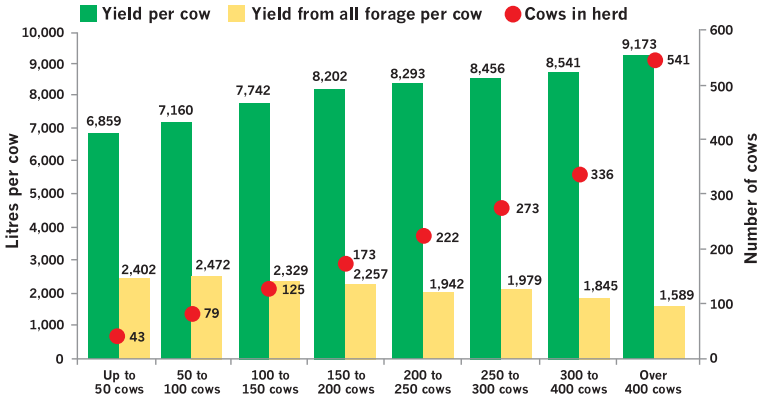


Herd size bands

The data shows an increase in herd size results in an increase in average milk price and also sees a trend to higher yield per cow, but feed costs increases limit the impact on margins.

Annual results – Year end March 2015									
HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Up to 50 cows	50 to 100 cows	100 to 150 cows	150 to 200 cows	200 to 250 cows	250 to 300 cows	300 to 400 cows	Over 400 cows
Cows in herd		43	79	125	173	222	273	336	541
Stocking rate	cows/ha	1.61	1.95	2.17	2.29	2.47	2.47	2.51	2.83
MILK PRODUCTION									
Yield per cow	litres	6,859	7,160	7,742	8,202	8,293	8,456	8,541	9,173
Yield from all forage per cow	litres	2,402	2,472	2,329	2,257	1,942	1,979	1,845	1,589
Milk price	pence	28.94	29.37	29.71	30.17	30.37	30.98	30.53	31.31
FEED									
Concentrate use per cow	kg	2,138	2,208	2,419	2,613	2,735	2,784	2,904	3,169
Concentrate use per litre	kg	0.31	0.31	0.31	0.32	0.33	0.33	0.34	0.35
Concentrate price per tonne	£	239	241	237	235	227	232	224	227
Other purchased feed cost per cow	£	23	26	59	70	92	100	98	106
Total purchased feed cost per cow	£	535	558	633	683	712	747	748	824
Total purchased feed cost per litre	pence	7.79	7.79	8.18	8.32	8.58	8.83	8.76	8.99
MARGINS									
MOPF per cow	£	1,451	1,545	1,667	1,792	1,807	1,873	1,860	2,047
MOPF per litre	pence	21.15	21.57	21.54	21.85	21.79	22.15	21.78	22.32

Herd performance by herd size band



There is an impact from yield per cow on these datasets and this sees more distinct margin per cow increases as herd size increases, which added to spreading overhead costs for herds with higher total output, may see an overall financial benefit from an increased herd size.

From the 50-100 cow band to the over 400 cow band, the margin over purchased feed increases by 0.75ppl, although the milk price increases by almost 2ppl.

However, the increases between bands are uneven and with the bulk of herds analysed between 50 cows and 250 cows, herd size effects on margin are reduced to an almost negligible maximum of 0.3ppl on a milk price difference of up to 1.6ppl. It is clear that larger herds on average lose a large proportion of the gain in milk price in purchased feed costs.

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Our **One2One** advice service can help you make informed choices on farm business planning, forage and fertiliser planning, herd nutrition and milk predictions.

All our Dairy Consultants and Advisors come from practical farming backgrounds and have full access to our independent research and trial results. Call **01458 851 555** for more information.

Practical support from the ground up

Health trends

Fewer mastitis and lameness cases, as well as lower cell counts, year on year, are helping control health costs for herds using Kingshay's **Health Manager** service, saving almost £3,000 per 100 cows compared to average 2012 incidence.

"Mastitis and lameness are the two health issues that cost herds the most in lost milk yield and vet and med costs."

Mastitis and lameness are the two health issues that cost herds the most in lost milk yield and vet and med costs, giving a cost per case of £248 and £191 per case, respectively. In the most recent year, the reduction of mastitis cases by two and lameness cases by one sees the average herd saving £687 on what their costs would be at the previous incidence.

This is on top of savings they have made by reducing cases in previous years. At average 2012 incidence their health costs would have been some £2,996 per 100 cows more in the past year. However, all the other health issues monitored for herds using the **Health Manager** service, show no change on the previous year. But top 25% herds still see only half the cases per 100 cows of both lameness and mastitis, with all other health issues also less, so these herds are saving £16,481 compared with the average herds.

This highlights the potential for many herds to continue to focus on health, particularly mastitis and lameness, to improve profitability, with these savings not easy to see in farm accounts. **Health Manager** monitors herd health incidence regularly and calculates the cost per case, giving vital information for managing these costs. How does your herd compare?

Cases per 100 cows	2012	2013	2014	2015
Mastitis	59	58	52	50
Lameness	48	45	45	44

Cases per 100 cows	Group	Top 25%	Est cost per case	Group cost	Top 25% cost	Difference
Mastitis	50	21	£248	£12,400	£5,208	£7,192
Lameness	44	21	£191	£8,376	£4,083	£4,293
Milk Fever	6	2	£214	£1,308	£472	£837
Displaced Abomasums	2	1	£255	£535	£229	£306
Difficult Calvings	5	2	£381	£1,906	£686	£1,220
Retained Cleansings	7	4	£378	£2,794	£1,623	£1,170
Abortions	3	2	£450	£1,531	£1,036	£495
Metritis	9	4	£197	£1,797	£829	£968
Total				£30,648	£14,167	£16,481

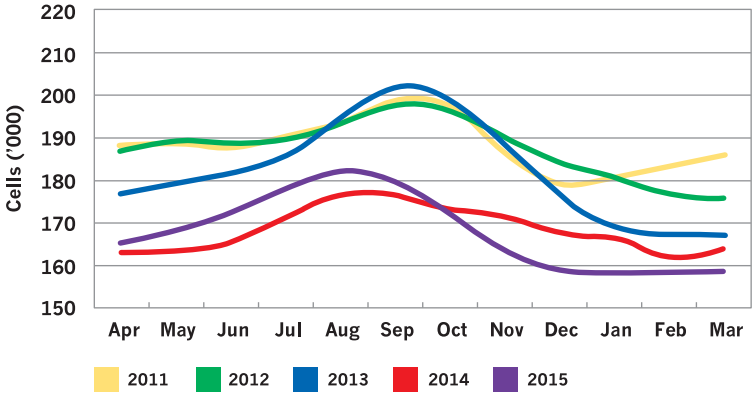
Please note: These costs per case have reduced since 2014 due to a lower average milk price used in these calculations.

Cell counts

Average somatic cell counts have been at the lowest levels ever throughout the last two years. Summer 2014 saw slightly higher levels of cell counts than the previous year. But this was still well below the previous years, with 2013 data a reminder of the relationship between wet weather and raised cell count levels.

This ongoing trend reflects a greater focus on managing cell counts to stay below 200,000 all year to avoid price penalties, as well as a focus on reducing clinical mastitis cases.

Bulk somatic cell counts



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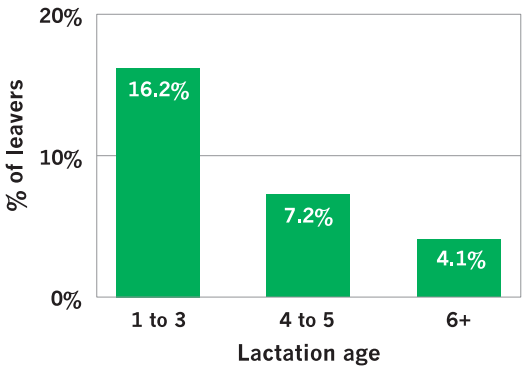
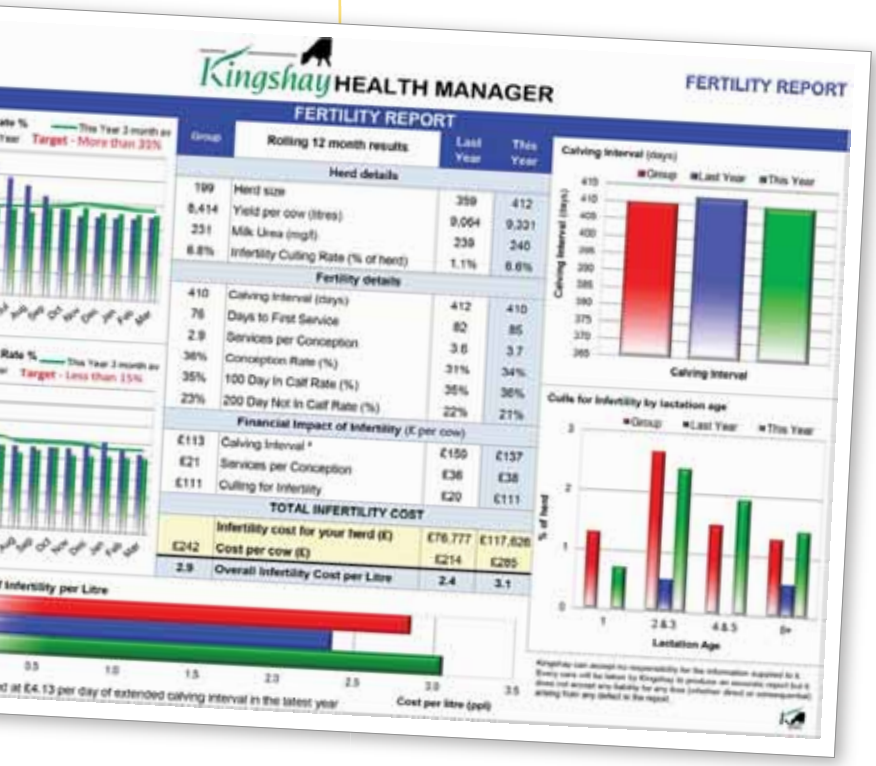
Fertility facts

Fertility figures from herds using **Health Manager** show the trend for a lower calving interval continues, with a further two day reduction in the past year, taking the average to 410 days.

Fertility results	Group	Top 25%
Calving interval	410	391
Days to first service	76	67
Services per conception	2.9	2.3
Conception rate	36%	47%
100 day in calf rate	35%	49%
200 day not in calf rate	23%	16%
Infertility culling rate	6.8%	4.7%
Cost of infertility (ppl)	2.85	1.31
Cost of infertility (£/Cow)	£242	£111
Cost of extended calving interval per day	£4.13	£3.45

Fertility related culling by lactation age





The top 25% herds have also reduced calving interval by one day in the past year to 391 days.

However, the average herd has a poorer infertility culling rate, increasing by 0.7%, which is likely to have contributed to the calving interval reduction.

Health Manager figures show that on average 28% of cows leaving the herd do so due to fertility issues and 16% are in their first three lactations, both figures having increased since 2014 by 2% and 1%, respectively. However, culling for fertility is a big factor in the variation in fertility costs seen between different herds.

This highlights the need to review fertility performance in conjunction with the reasons for and ages of cows culled in individual herds. Those with high culling for infertility in early lactations need to manage heifer rearing carefully, ensuring they are well grown, so they can perform well in their early lactations, without compromising on fertility.

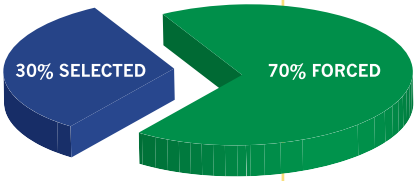
The cost of infertility for a typical 150 cow herd achieving 8,500 litres per cow has been calculated to average 2.85ppl or £242 a cow. Sadly, the reduction in these costs from the previous year relates more to the fall in milk price, than to any improvement in fertility performance.

The calculations for this year use a 25ppl milk price and a purchased feed price of £220/t.

This lower milk price also means each extra day the calving interval is extended now costs £4.13 a day for the average fertility herd. Top 25% fertility herds reduce this cost to £3.45 a day.

Reasons for cows leaving herd

Health and fertility were the main reasons given for 70% of cows being culled in the year to March 2015, according to data from herds using the **Health Manager** option within **Dairy Manager**.



This represents an increase of 2% on the previous year, with repeat breeders and Johne's Disease the two individual reasons for leaving which increased the most. The latter potentially results from campaigns to increase awareness and testing for Johne's.

The average herd rate culling was 26% for the year, having increased by 2% on 2014, thereby returning to the level of previous years. However, herds below 100 cows achieved a reduction in culls from 22% to 19%. There has also been an increase in forced culls from 68% to 70%, meaning that just 30% are selected of which a proportion of these are indirectly related to health reasons.

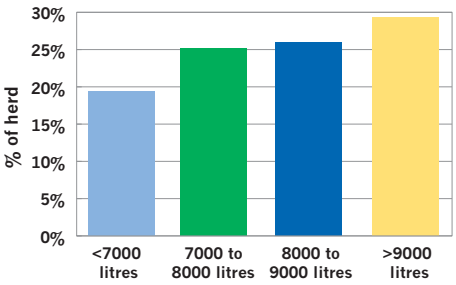
Most reasons for culling show little change compared to previous years. The two exceptions are mastitis and cell counts, which are closely related. Both remain at the same all time low rates reported in 2014. Together, these accounted for an average of 14% of culls from 2011-2015 compared with 18% from 2005-2010, confirming a downward trend.

However, the age profile of cows leaving herds, continues to show 48% of those leaving herds haven't reached a fourth lactation, with fertility the biggest reason for first lactation cows leaving at 28.4%.

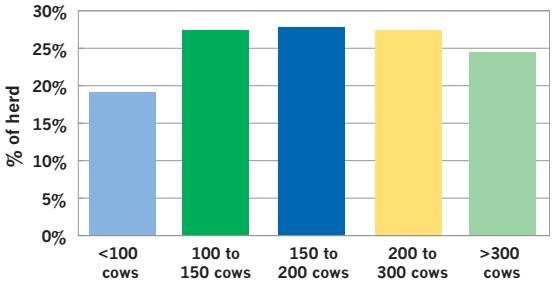
Health Manager offers a relatively simple option for monitoring culls against a herd health plan, allowing prompt reaction to health issues that can help keep replacement costs down and manage vet costs.

Further advice on managing health and fertility in individual herds is available from Kingshay, via our **One2One** consultants or **HowsMyHerd** assessments.

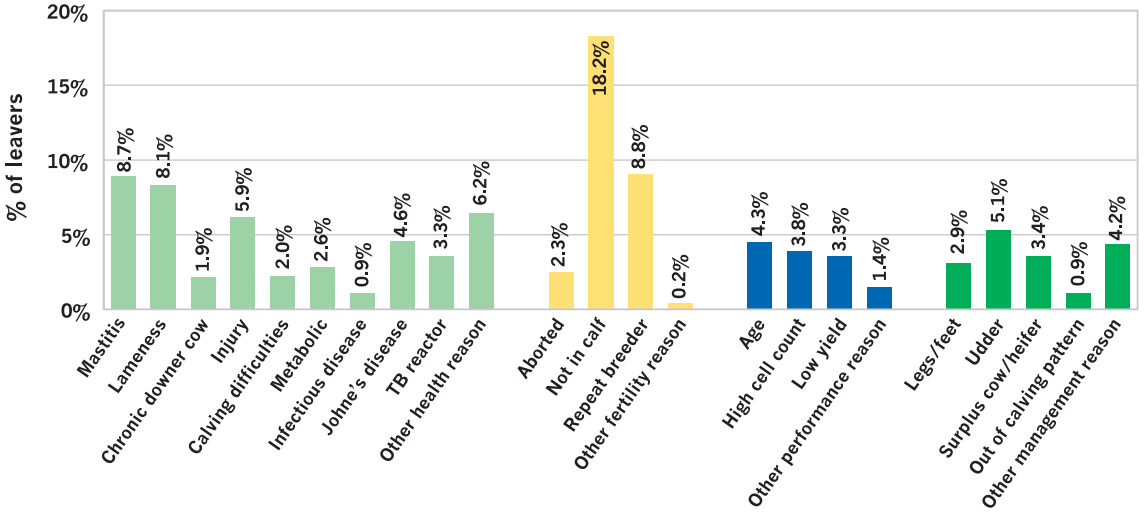
Cows leaving herd by yield level (culling rate)



Cows leaving herd by herd size band (culling rate)



Individual leaving reasons



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Organic update

The year to March 2015 has seen the rolling average organic price rising by 0.6ppl, with the premium over conventional milk prices widening by 2.7ppl to 8.7ppl.

Further analysis of organic milk prices shows a wide range of prices received in the year to March 2015, with the highest 25% averaging 40.9ppl and the lowest 25% averaging 36.4ppl.

The overall effect of the milk price increase and reduced feed cost, between the years to March 2014 and 2015, was an average increase of 1.2ppl in margin over purchased feed. However, 66kg a cow more concentrate was fed for just 26 litres of extra milk, an uneconomic response rate of one litre (worth 38.8 pence) from every additional 2.5 kgs (costing 78.4 pence) of feed.

However analysis of the monthly price paid for organic milk in March shows a year on year fall of 7% on average. Contrary to the divergent pricing for conventional milk, the fall is relatively equal across the price range (top 10% vs bottom 10%).

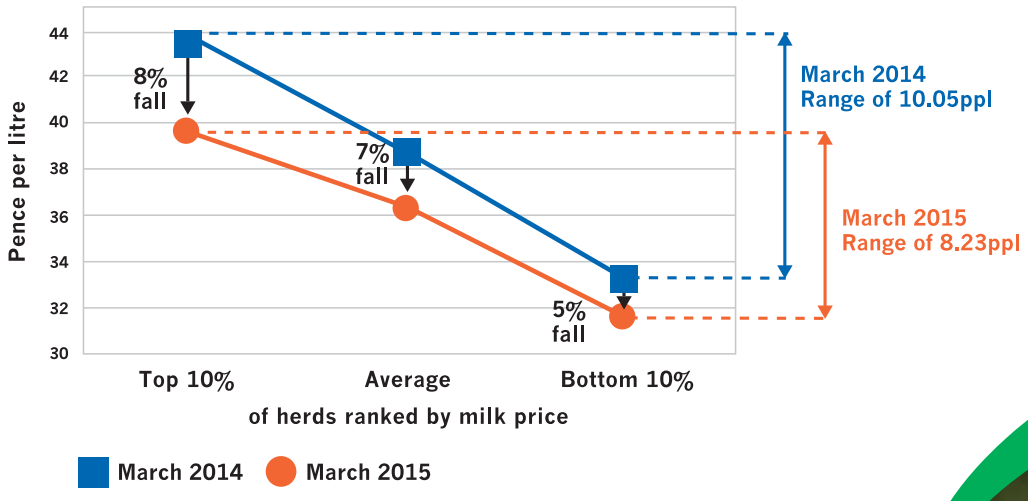
Although organic concentrate prices have fallen by £29/t, the cost is £75/t more than for conventional herds. This sees average feed costs 0.6ppl higher for organic herds. However, there is a similarly wide gap to conventional herds, when herds are ranked by feed costs per litre at 4.6ppl. The 25% with the lowest costs spend 6.49ppl and the highest 25% spend 11.04ppl. For a typical 1.4m litre organic herd, this 4.6ppl gap equates to £64,400.

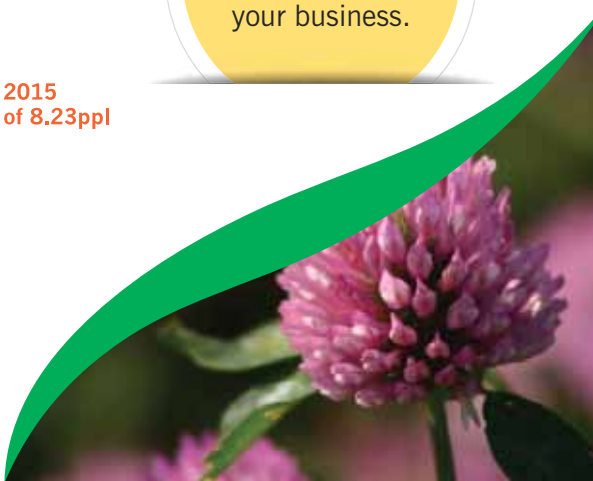
Those with the lowest feed costs do produce 1,068 litres less milk per cow at 6,016 litres, although it has higher constituent quality. Ranking herds by milk from forage, shows the best forage users (top 25%) produce a 630 litre per cow higher yield with 1,800 more litres from forage than the bottom 25%. This results in a 3.3ppl difference in feed costs per litre, accounting for some but not all the difference seen when ranking by feed costs.

Organic year-on-year comparison

HOLSTEIN/FRIESIAN, ORGANIC HERDS		Year ending March 2014	Year ending March 2015	Difference	% change
Cows in herd		207	212	5	2.4%
Stocking rate	cows/ha	1.67	1.72	0.05	3.0%
MILK PRODUCTION					
Yield per cow	litres	6,800	6,826	26	0.4%
Yield from all forage per cow	litres	2,926	2,809	-117	-4.0%
Butterfat	%	3.95	3.92	-0.03	-0.8%
Protein	%	3.26	3.29	0.03	0.9%
Milk price	pence	38.20	38.79	0.59	1.5%
FEED					
Concentrate use per cow	kg	1,890	1,956	66	3.5%
Concentrate use per litre	kg	0.28	0.29	0.01	3.6%
Concentrate price per tonne	£	338	309	-29	-8.6%
Other purchased feed cost per cow	£	9	8	-1	-11.1%
Total purchased feed cost per cow	£	648	612	-36	-5.6%
Total purchased feed cost per litre	pence	9.53	8.97	-0.56	-5.9%
All purchased feed @ 86% equivalent per cow	kg	1,923	1,988	65	3.4%
MARGINS					
MOPF per cow	£	1,950	2,036	86	4.4%
MOPF per litre	pence	28.68	29.83	1.15	4.0%

Organic March milk price fall





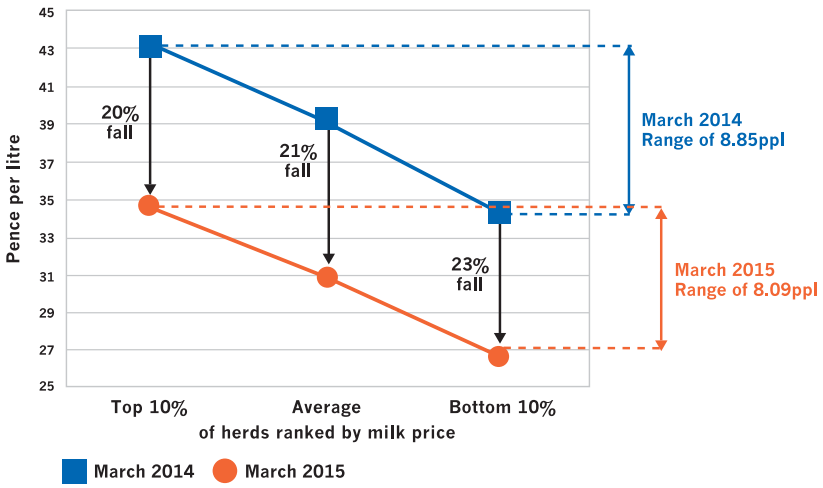
Channel Island update

Milk prices for Channel Island herds have fallen less than conventional Holstein Friesian herds in the year to March 2015, down 1.44ppl to average 35.2ppl.

Channel Island year-on-year comparison

CHANNEL ISLAND, CONVENTIONAL HERDS		Year ending March 2014	Year ending March 2015	Difference	% change
Cows in herd		153	158	5	3.3%
Stocking rate	cows/ha	2.43	2.47	0.04	1.6%
MILK PRODUCTION					
Yield per cow	litres	5,627	5,630	3	0.1%
Yield from all forage per cow	litres	1,977	1,934	-43	-2.2%
Butterfat	%	5.29	5.25	-0.04	-0.8%
Protein	%	3.76	3.82	0.06	1.6%
Milk price	pence	36.60	35.16	-1.44	-3.9%
FEED					
Concentrate use per cow	kg	1,895	1,945	50	2.6%
Concentrate use per litre	kg	0.34	0.35	0.01	2.9%
Concentrate price per tonne	£	264	245	-19	-7.2%
Other purchased feed cost per cow	£	68	60	-8	-11.8%
Total purchased feed cost per cow	£	568	537	-31	-5.5%
Total purchased feed cost per litre	pence	10.09	9.54	-0.55	-5.5%
All purchased feed @ 86% equivalent per cow	kg	2,149	2,176	27	1.3%
MARGINS					
MOPF per cow	£	1,491	1,443	-48	-3.2%
MOPF per litre	pence	26.50	25.63	-0.87	-3.3%

Channel Island March milk price fall



As for Holstein Friesian herds, further analysis of milk prices gives an indication of a wide range of prices received in the year to March 2015, with the highest 25% averaging 37.8ppl and the lowest 25% averaging 31.9ppl. However, part of this difference relates to milk quality, with these herds most likely to be on a constituent-based contract. The highest price relates to milk at 5.53% butterfat and 3.98% protein and the lowest at 4.85% butterfat and 3.59% protein.

In contrast to the Holstein Friesian herds, where a wide gap between highest and lowest prices has developed, the fall in the price of Channel Island milk paid in March has been similar across all herds.

Average herd performance to March 2015 shows an increase in feed use of 50kg a cow on the previous year, although there was no change in milk yield. Falling feed prices mean average feed costs have reduced by 0.55ppl from the year to March 2014.

Ranking herds according to feed costs per litre shows a 5.8ppl difference between the lowest 25% at 6.25ppl and highest 25% at 12.07ppl. This is influenced by higher milk constituent levels for herds with a higher feed cost, but it also shows the highest feed costs herds produce only 17% of milk from forage and the lowest feed cost herds 54%.

If higher constituent quality is assumed to be the key reason for the 2.8ppl higher milk price for highest feed cost herds, the 3ppl difference in margin over purchased feed relates to feed use efficiency.

At a typical Channel Island herd output of 900,000 litres, this equates to a £27,000 difference between the margin over purchased feed of the highest and lowest performing herds.

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