Kingshay DAIRY MANAGER

Dairy Costings Focus

Annual Report 2014

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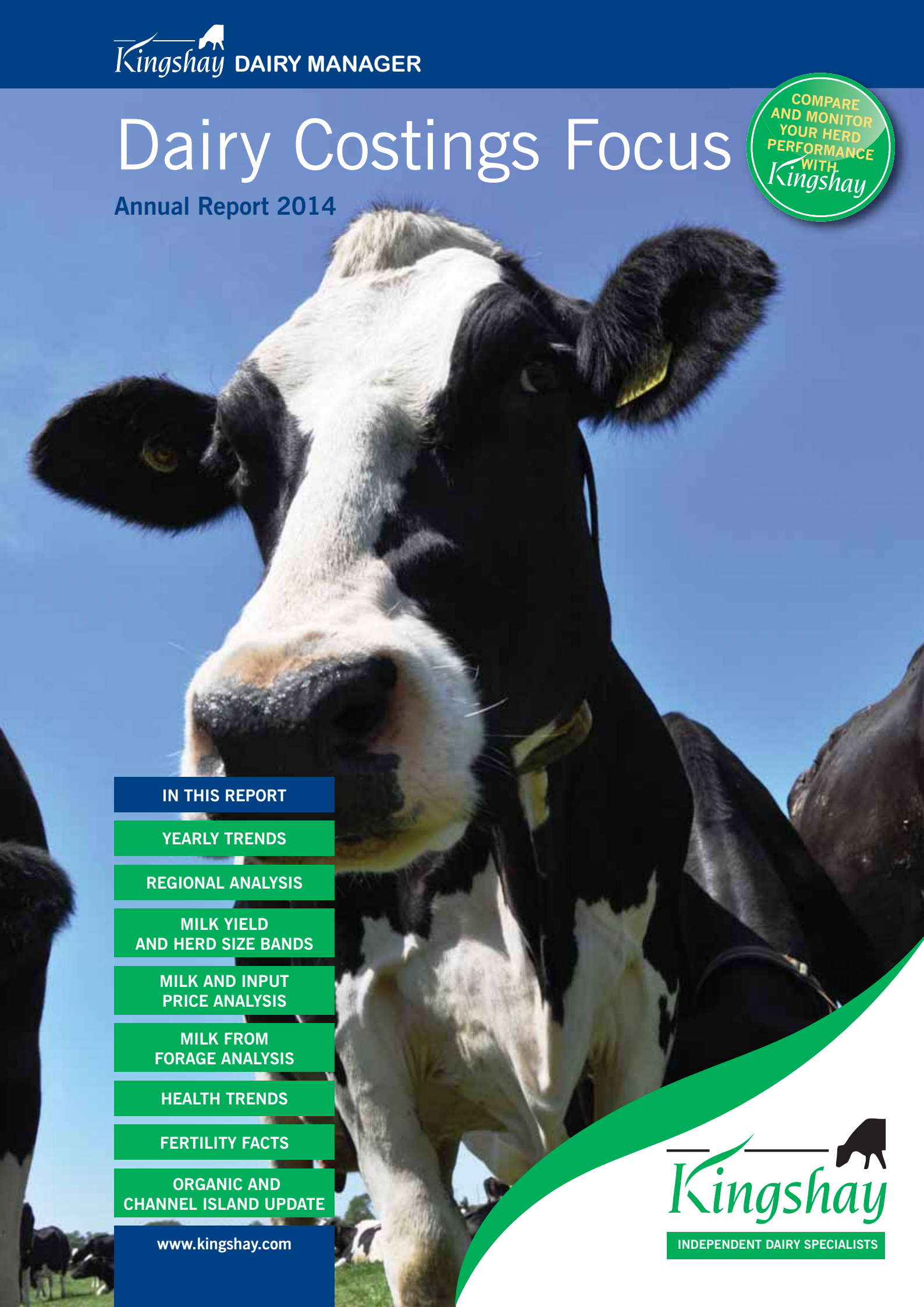

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INDEPENDENT DAIRY SPECIALISTS

Welcome

Weather, milk prices, exchange rates, inputs costs – all of them seem to be getting ever more volatile. The glass-half-empty brigade will claim costs are always on the way up while milk prices are permanently on the down escalator.

The progressive producers we work with take a different view, using our independent research, advice and services to enhance their decision making and forge a profitable future.

At Kingshay, we have always believed that you should manage the factors within your control and understand those beyond your control. That's why we provide our **Dairy Manager** costings to measure your herd performance, giving you sound data for informed management decisions. 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 build a profitable future for your business.

From our base at Bridge Farm, a commercial dairy farm on the edge of the Somerset Levels, we reach out to producers across the UK. We understand that every farm is different but wherever you farm, you can be assured that we are independent, unbiased and knowledgeable. You know that we have the experience of over 20 years working with some of the best in the industry to bring you our technical know-how and no-nonsense facts so you get the most out of your membership and truly unlock the potential on your farm.

The Kingshay offices, Bridge Farm, Somerset

Get in touch! Our network of experts 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 build a profitable future on your farm.

The future's bright – the future's informed!

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Introduction

After some tough years, this Dairy Costing Focus shows the welcome relief of higher milk prices which has improved margins. Higher milk yields and better feed efficiency have also contributed to an increase in margins on last year.

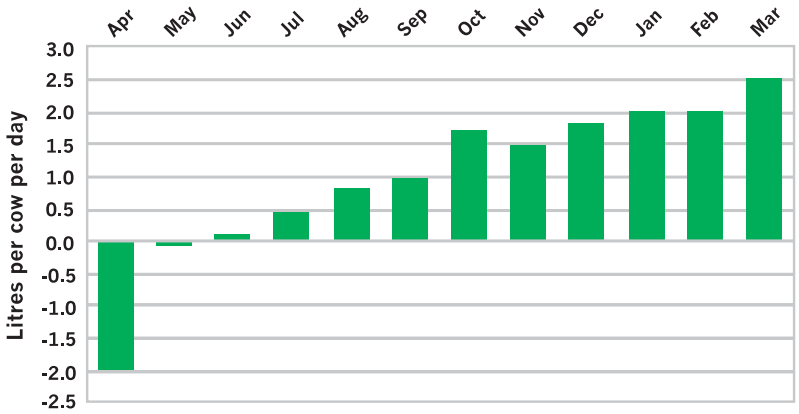
There is also a widening gap between the best and worst **Dairy Manager** costed herds in efficiency of milk production and many farms are missing out on potential gains higher prices could deliver.

For a long term future in dairy farming, managing feed costs is as important as ever and the opportunity to invest in improving feed and forage use efficiency is now, to help cope with future challenges of milk price, feed prices, other input costs and the weather.

Kingshay's analysis of data by many key parameters shows there is no single solution to the optimum yield level, calving pattern or herd size which covers all farms. That equation must also consider the output level required to cover fixed costs and many other, often unique, factors.

However, the importance of targeting feed efficiency is clear and **Profit Manager** data shows this relates strongly to profit, after taking all production costs into account. When ranked by margin over purchased feed, with 5.42ppl between the top and bottom 25% that difference amounts to £75,000 for a typical 1.4m litre herd. About 1.5ppl of this relates to milk price, so the difference in feed use efficiency is 3.9ppl, which is more than the increase in milk price in the past year.

Change in daily milk yield per cow compared to previous year

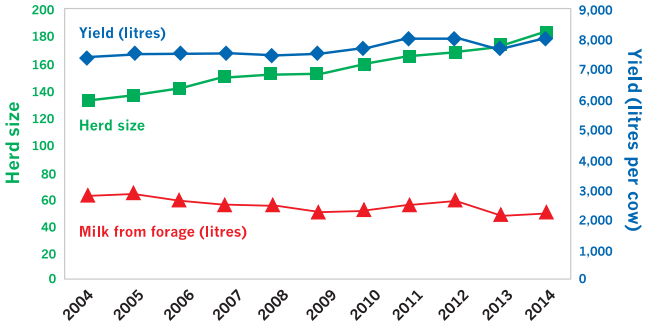


When herds are ranked by milk from forage, the difference in margin between top and bottom 25% herds is also 3.9ppl, with similar average yield and an almost identical milk price. Milk from forage is often criticised because it is a calculated figure, but its strength as a key performance indicator lies in its ability to indicate underlying feed use efficiency, while stripping out the variables of rapidly changing milk and feed prices. This is what makes the big difference in margins per litre or per cow, with little yield effect and it can be monitored easily, month by month using **Dairy Manager**.

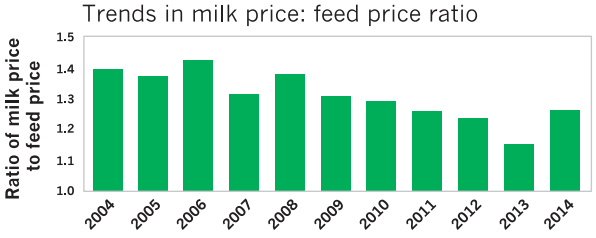
Trends over the last 10 years

The last 10 years has seen increases in Holstein Friesian conventional herd size, milk price and margins over purchased feed, but there is little evidence of improvements in performance efficiency per litre, according to **Dairy Manager** data.

Trends in milk production and efficiency



Trends in milk price: feed price ratio



The average herd is now 183 cows, 39% up on 2004 and producing 50% more milk at close to 1.5m litres a year. Yield per cow has increased by 545 litres in 10 years, but this has been achieved with increases in purchased feed and decreases in performance from forage.

In the year to March 2014, milk yield recovered to a level before the poor forage year ending March 2013. Margins over purchased feed per cow and per litre saw their biggest change in any year of the last decade, with a 3.32ppl increase in milk price. However, more concentrate and purchased feed was used than in the two previous years, so yield from forage improved little and continued a general downward trend. Stocking rates have tightened from 10 years ago, but have remained similar for the past five years.

Often additional or marginal litres are justified by a predicted feed rate, but **Dairy Manager** data indicates they may pay less than is expected. Comparing the 2014 results with 2004 shows that each of the 545 extra litres of higher yield has taken a feed rate of 1.01kg/ltr of concentrate equivalent. At a concentrate price of £256/tonne, this has cost 25.9p for each additional litre.

The milk price/concentrate price ratio (how many kgs of concentrate a litre of milk will buy) is among the best for the last five years. With a current milk price of 32ppl, feeding for extra litres could be economic on many dairy farms, depending on other production costs. However, milk and feed price fluctuations could upset the economics and monitoring them on a monthly basis offers a quick and valuable check. Maintaining a focus on feed use efficiency is key to sustained long term profitability.

Annual rolling results

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS Year ending March		2004	2014	Difference	% change
Cows in herd		132	183	51	39%
Stocking rate	cows/ha	2.16	2.33	0.17	8%
MILK PRODUCTION					
Yield per cow	litres	7,382	7,927	545	7%
Yield from all forage per cow	litres	2,815	2,266	-549	-20%
% of total yield from forage		38%	29%	-10%	-25%
Milk price	pence	18.33	31.86	13.53	74%
Total milk value per cow	£	1,353	2,526	1,173	87%
Milk price: conc. price ratio		1.39	1.24	-0.15	-11%
FEED					
Concentrate use per cow	kg	2,058	2,490	432	21%
Concentrate use per litre	kg	0.28	0.31	0.03	11%
Concentrate price per tonne	£	132	256	124	94%
Other purchased feed cost per cow	£	19	77	58	302%
Total purchased feed cost per cow	£	291	715	424	146%
Total purchased feed cost per litre	pence	3.94	9.02	5.08	129%
All purchased feed @ 86% equivalent per cow	kg	2,250	2,802	552	25%
MARGINS					
MOPF per cow	£	1,062	1,811	749	71%
MOPF per litre	pence	14.39	22.85	8.46	59%

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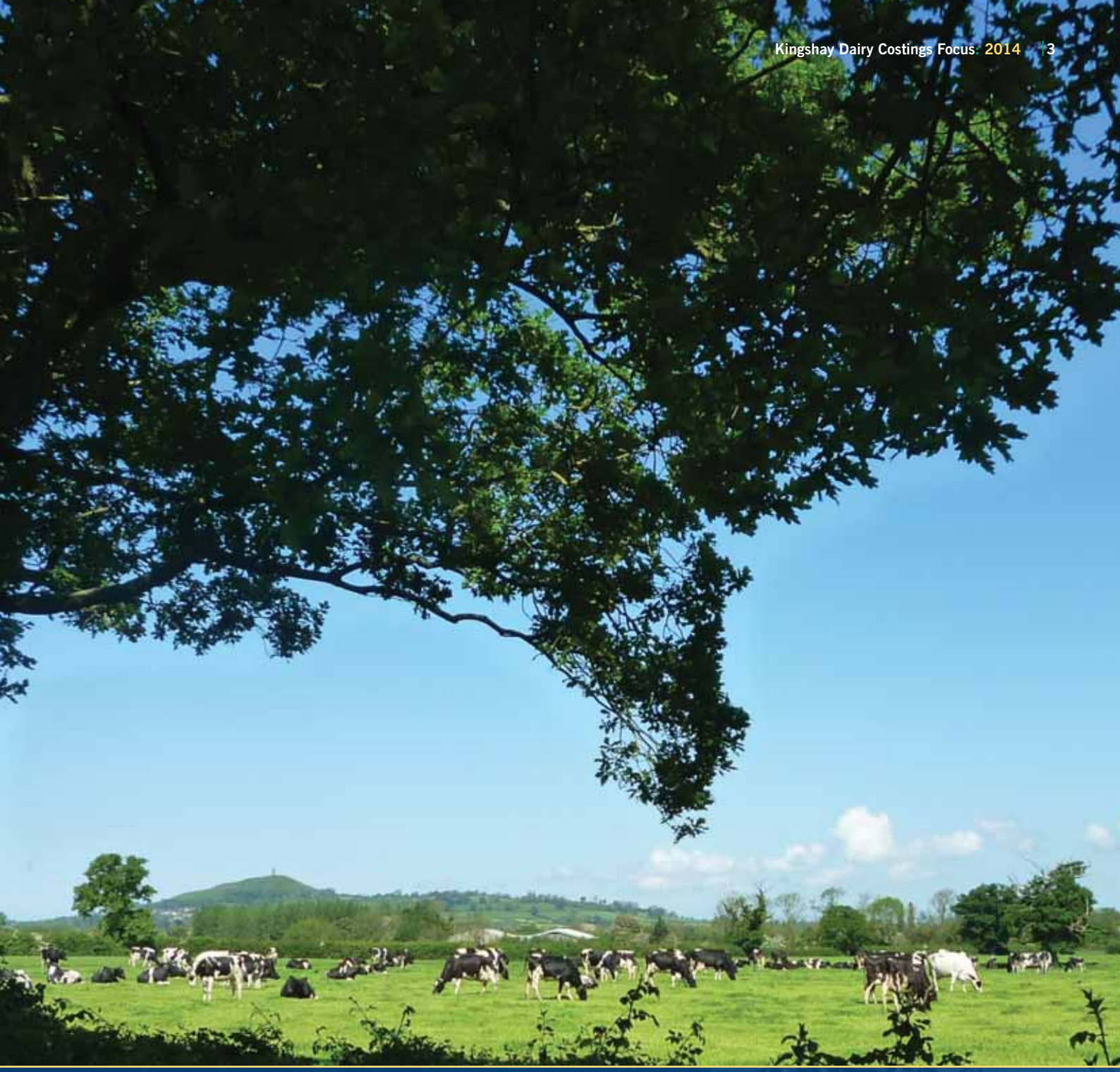

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For crop options, quality features, full costings and growing requirements, ask for Kingshay's **Forage Costings Report** published every autumn.

Milk from forage

Ranking herds by milk from forage, shows the top 10% produce more than 4,000 litres from forage, but these are not low yielding as might be expected, with an average yield of 7,894 litres.

Milk yields and milk prices differ little within the bands on this ranking, with margin per cow proving lowest for the bottom 25% herds, yet milk from forage varies by thousands of litres. The result is a 3.9ppl difference in margin over purchased feed and feed costs per litre between top 25% and bottom 25% herds, which equates to £54,600 for a typical Dairy Manager herd output of 1.4m litres.

The top 10% milk from forage herds to March 2014 returned an extra 0.7ppl in margin over feed above the top 25%, worth £9,800 for a herd producing 1.4m litres.

The difference in margins between bottom and top 25% has widened by 0.4ppl from 12 months ago. The top 25% herds, which are likely more focused on forage efficiency, having recovered more of the previous poor forage year's losses.

However, reflecting the time it takes to recover from very poor conditions such as those in 2012-13, milk from forage has not recovered to 2012 levels when the top 10% achieved 4,390 litres, top 25% produced 3,965 litres, average was 2,723 litres and bottom 25% produced 1,415 litres.

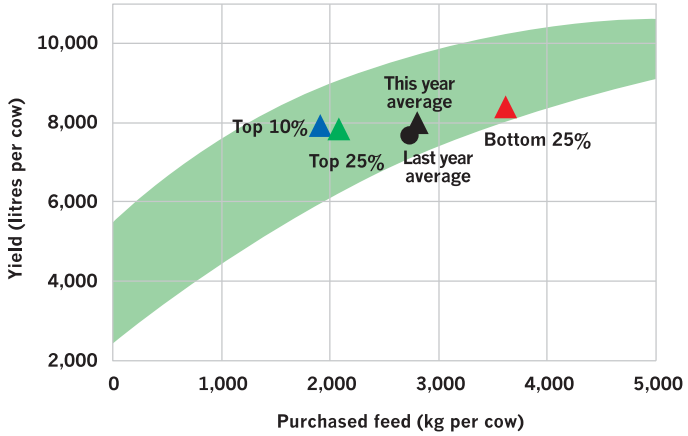
Annual results – Year end March 2014 (Ranked by milk from forage)

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Top 10%	Top 25%	Average	Bottom 25%	Top 25% – last year	Average – last year
Cows in herd		144	152	183	221	143	172
Stocking rate	cows/ha	2.19	2.25	2.33	2.36	2.20	2.28
MILK PRODUCTION							
Yield per cow	litres	7,894	7,729	7,927	8,382	7,469	7,672
Yield from all forage per cow	litres	4,100	3,603	2,266	821	3,413	2,133
Milk price	pence	31.89	31.88	31.86	31.90	28.49	28.51
FEED							
Concentrate use per cow	kg	1,831	1,974	2,490	3,036	1,955	2,447
Concentrate use per litre	kg	0.23	0.26	0.31	0.36	0.26	0.32
Concentrate price per tonne	£	259	258	256	253	249	247
Other purchased feed cost per cow	£	24	31	77	145	29	73
Total purchased feed cost per litre	pence	6.30	6.99	9.02	10.90	6.91	8.85
All purchased feed @ 86% equivalent per cow	kg	1,921	2,086	2,802	3,658	2,070	2,758
MARGINS							
MOPF per cow	£	2,020	1,924	1,811	1,760	1,612	1,508
MOPF per litre	pence	25.59	24.90	22.85	20.99	21.58	19.66

Interestingly, the top herds pay more per tonne for concentrate, but use a tonne or 30% less per cow. While stocking rate is 5% lower for top herds, this does not account for the differences in forage use efficiency.

This data supports the use of milk from forage as a key performance indicator which few can afford to ignore, whatever the herd yield or milk price. However, forage is not free and its production costs can vary too.

Milk from forage milk map



Milk yield bands

Each extra 1,000 litres a cow increases margin per cow by about £200, but the impact on margin per litre is negative, when ranking herds by yield bands.

Within this ranking, margin per litre effects have widened since 2013, mainly resulting from the difference in milk prices, which reduced from 1.8ppl to 1.05ppl between the lower yielding and over 9,000 litre herds. The gap in margins would have increased further had it not been for an increase in feed costs of 0.37ppl for herds up to 6,000 litres and just 0.1ppl for other yield bands.

A better milk price, even though milk quality has declined, helps hold up the margins per litre for higher yielding herds, but that milk price is influenced positively by the incidental increase herd size for this ranking.

More than 20% of herds are achieving yields above 9,000 litres a cow and with current milk prices this may be a profitable strategy. However, if milk price falls the benefits may reduce for those using forage less efficiently.

Annual results – Year end March 2014

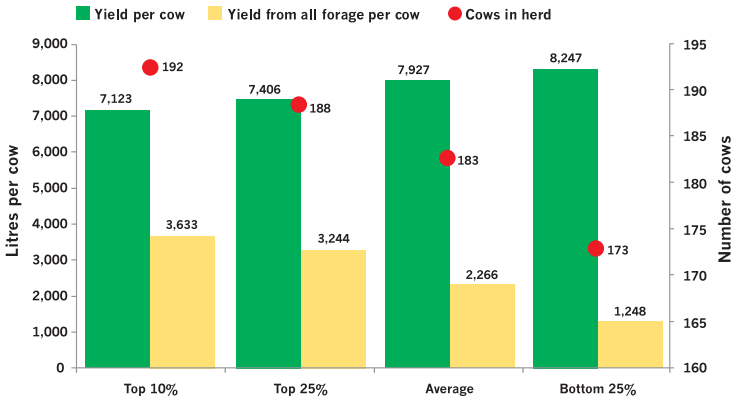
HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Up to 6000 litres	6000 to 7000 litres	7000 to 8000 litres	8000 to 9000 litres	Over 9000 litres
Cows in herd		136	153	163	193	236
Stocking rate	cows/ha	2.19	2.37	2.21	2.35	2.52
MILK PRODUCTION						
Yield per cow	litres	5,399	6,574	7,551	8,496	9,686
Yield from all forage per cow	litres	2,355	2,416	2,516	2,229	1,818
Milk price	pence	31.15	31.69	31.79	32.00	32.20
FEED						
Concentrate use per cow	kg	1,497	1,954	2,279	2,752	3,226
Concentrate use per litre	kg	0.28	0.30	0.30	0.32	0.33
Concentrate price per tonne	£	256	255	257	256	257
Other purchased feed cost per cow	£	17	32	58	88	145
Total purchased feed cost per cow	£	401	529	643	792	974
Total purchased feed cost per litre	pence	7.43	8.05	8.51	9.32	10.05
All purchased feed @ 86% equivalent per cow	kg	1,595	2,101	2,524	3,102	3,784
MARGINS						
MOPF per cow	£	1,281	1,554	1,757	1,927	2,146
MOPF per litre	pence	23.72	23.64	23.27	22.68	22.15

Top vs bottom margin over purchased feed per litre and per cow

Herds with a lower margin per litre also have a lower margin per cow, despite producing extra litres a cow, highlighting the importance of focusing on feed and forage use efficiency.

Annual results – Year end March 2014					
HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		TOP 10%	TOP 25%	AVERAGE	BOTTOM 25%
Cows in herd		192	188	183	173
Stocking rate	cows/ha	2.40	2.28	2.33	2.21
MILK PRODUCTION					
Yield per cow	litres	7,123	7,406	7,927	8,247
Yield from all forage per cow	litres	3,633	3,244	2,266	1,248
Milk price	pence	33.02	32.63	31.86	31.07
FEED					
Concentrate use per cow	kg	1,685	1,960	2,490	2,933
Concentrate use per litre	kg	0.24	0.26	0.31	0.36
Concentrate price per tonne	£	247	248	256	263
Other purchased feed cost per cow	£	20	33	77	124
Total purchased feed cost per litre	pence	6.12	7.00	9.02	10.87
MARGINS					
MOPF per cow	£	1,916	1,898	1,811	1,666
MOPF per litre	pence	26.90	25.63	22.85	20.21

Herd performance by MOPF per litre



While the bottom 25% herds ranked by margin per litre produce 840 litres a cow more, with 15 fewer cows, their total herd production is similar to the top 25% herds at close to 1.4m litres. At a 1.4m litre output a top 25% herd will have a herd margin £75,880 higher than a bottom 25% herd. The top 10% herd gains a further £17,750 on top of the 25% with the same 1.4m litre output. The data also shows bottom 25% herds produced only 15% of their milk from forage, compared with 44% for top 25% herds, and fed £377 more purchased feed a cow for extra milk worth only £261.

The gap in milk price achieved between top and bottom 25% herds has reduced to 1.56ppl from 2.4ppl in 2013 results, with the difference in prices partly accounted for by top 25% herds having 0.15% higher butterfat. However, with top herds having reduced feed costs a litre in the year by 0.21ppl and bottom herds the differences in margin remain similar at 5.42ppl, albeit both being about 3ppl higher than in 2013.

The bottom herds have spent more of their relatively smaller milk price increase on feed and have seen no benefit from a better forage year than 2012-2013.

When looking at herds ranked according to margin over purchased feed per cow, it is clear the link between yield and feed efficiency is weak, with poor use of feed and forage a bigger factor. There is a strong link between yield and margin a cow, as you would expect, but the feed costs per litre between 10% and bottom 25% are within 0.22ppl and the margins a litre mirror the higher milk price, which is partially influenced by increased herd size.

Herds wishing to target a 9,000 litre plus yield, may not be able to match the feed costs of a top 10% margin per litre herd producing 7,123 litres with a feed cost of 6ppl, but should be able to achieve a target of below 9ppl, which is almost 2ppl lower than the poorest performing herds.

Regional analysis

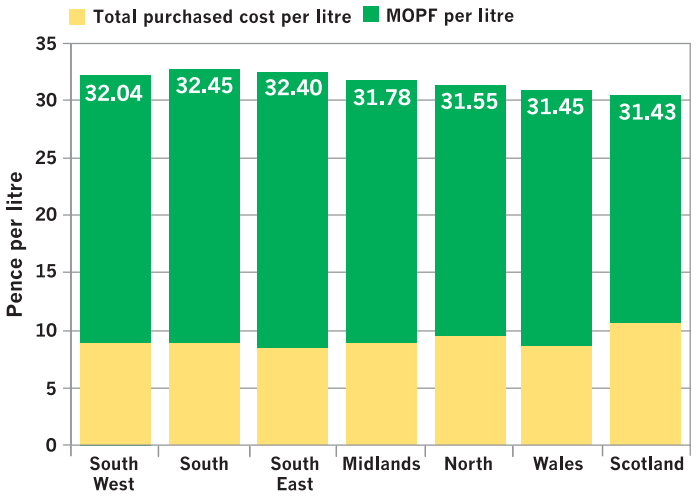
Margins across all regions have been assisted by an increase in milk price compared with 2013 results, with the South and South East regions maintaining the highest prices.

Annual results – Year end March 2014								
HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		South West	South	South East	Midlands	North	Wales	Scotland
Cows in herd		174	180	188	203	166	171	227
Stocking rate	cows/ha	2.22	2.29	2.63	2.43	2.23	2.42	1.85
MILK PRODUCTION								
Yield per cow	litres	7,725	8,036	7,815	8,083	8,355	7,482	8,699
Yield from all forage per cow	litres	2,546	2,474	2,560	2,166	1,847	2,408	972
Milk price	pence	32.04	32.45	32.40	31.78	31.55	31.45	31.43
FEED								
Concentrate use per cow	kg	2,386	2,385	2,317	2,580	2,773	2,304	2,999
Concentrate use per litre	kg	0.31	0.30	0.30	0.32	0.33	0.31	0.34
Concentrate price per tonne	£	259	255	254	251	258	256	260
Other purchased feed cost per cow	£	60	92	72	81	92	57	153
Total purchased feed cost per litre	pence	8.76	8.72	8.44	9.00	9.66	8.64	10.72
MARGINS								
MOPF per cow	£	1,799	1,907	1,873	1,841	1,829	1,706	1,802
MOPF per litre	pence	23.28	23.73	23.97	22.78	21.89	22.81	20.72

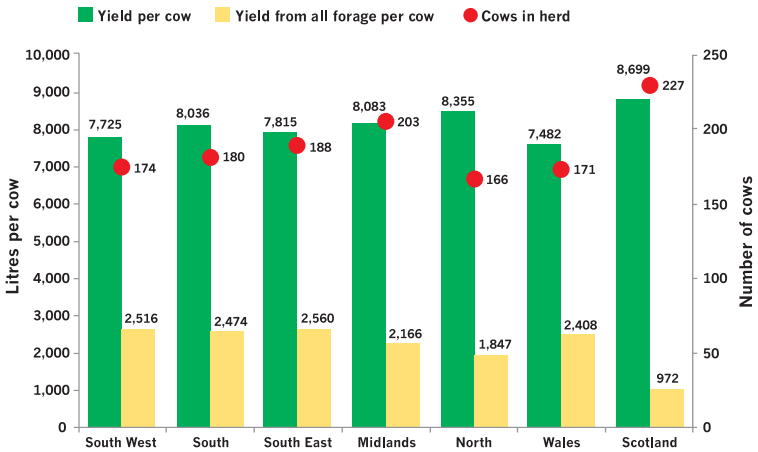
Milk price is a contributing factor to lower margins further North and in Wales, although in Scotland this partly reflects lower milk constituent levels.

Less favourable growing conditions in Scotland and Northern England provide more of a challenge to producing milk from forage which feeds through to higher feed costs per litre in both regions. However, higher yield per cow results in similar margins per cow to other regions.

Margins by region



Herd performance by region



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Calving pattern

Spring calving herds achieve a margin over feed 2.05ppl higher than all year round calving herds. Although this gap is smaller than a year ago, it is double that of two years ago.

The difference in milk price between calving pattern options has reduced to 0.51ppl, with increased milk quality for spring calving herds helping balance out seasonal price effects.

However, the gap in feed costs has been increasing with higher feed prices and feed rates. Feed costs were 2.56ppl lower for spring calving herds than all year round herds in the year to March 2014.

The all year round herds produce 1828 litres more per cow, so their margin per cow is £288 higher. Each extra litre has, therefore, cost 15.75ppl in feed to produce which can be mainly attributed to producing 1400 less litres from forage than top 25% herds ranked on yield from forage at a similar yield level.

COMPARE AND MONITOR YOUR HERD PERFORMANCE WITH Kingshay

Annual results – Year End March 2014

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS		Spring	Autumn	Winter	All year round
Cows in herd		191	167	132	187
MILK PRODUCTION					
Yield per cow	litres	6,187	7,817	7,682	8,015
Yield from all forage per cow	litres	2,900	2,568	2,470	2,173
Butterfat	%	4.26	4.08	4.07	4.02
Cellcount		180	160	175	169
Milk price	pence	31.37	31.97	31.36	31.88
FEED					
Concentrate use per cow	kg	1,573	2,351	2,328	2,555
Concentrate use per litre	kg	0.25	0.30	0.30	0.32
Concentrate price per tonne	£	250	256	256	256
Other purchased feed cost per cow	£	17	64	68	82
Total purchased feed cost per litre	pence	6.64	8.51	8.65	9.20
MARGINS					
MOPF per cow	£	1,530	1,834	1,745	1,818
MOPF per litre	pence	24.73	23.46	22.72	22.68

Kingshay DAIRY MANAGER

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

Our various packages (detailed opposite) 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.

First two months **FREE OF CHARGE***

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

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Input price analysis: feed, fertiliser and fuel

Recent increases in milk price appear to have made key inputs more affordable, with input prices holding or slightly reduced from a year ago.

The charts below show the three main costs that fluctuate on dairy farms, the three "f"s (feed, fertiliser and fuel) by showing the input price in relation to the milk price as a ratio to identify the trend.

A year ago, the charts indicated a long term trend for more litres of milk to cover the increases in input costs, but a 20% increase in milk price in the year has bucked this trend in the last year. This is good news in the short term, however, with both input and milk prices becoming more volatile over the last 10 years, it would be unwise to anticipate a general downward trend.

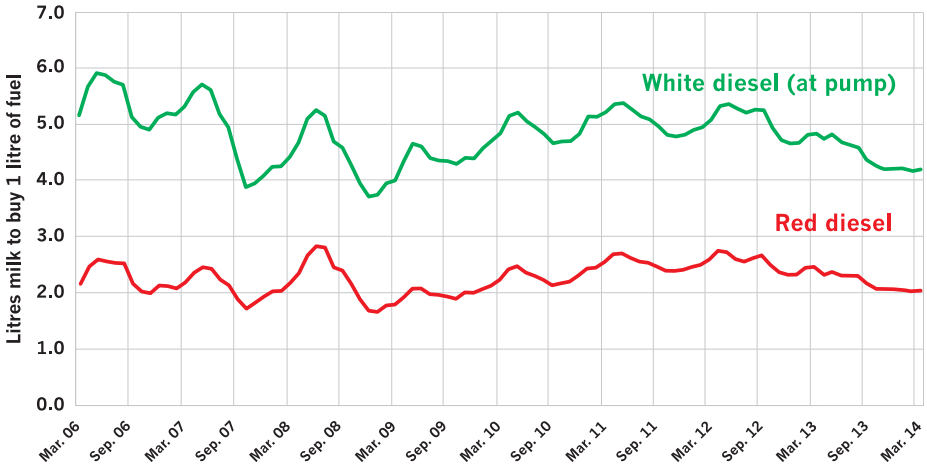
In real terms, fertiliser costs have increased by 153% in 10 years and feed costs 63-100%, while milk prices have risen by 75%. Managing costs, particularly through negotiating contracts, will have a bigger role to play in profitability than it has in the past.

Profit Manager data shows the most profitable herds have lower costs on most inputs, indicating a focus on their own cost trends and their relationship to profits. While it is increasingly difficult to predict the global market for commodities, including their effect on the UK milk price, using forward contracts and buying inputs at opportune periods can reduce costs.

Is it time for the industry to embrace milk price hedging using forward contracts? It would not eliminate the expected volatility but it would smooth out the peaks and troughs.

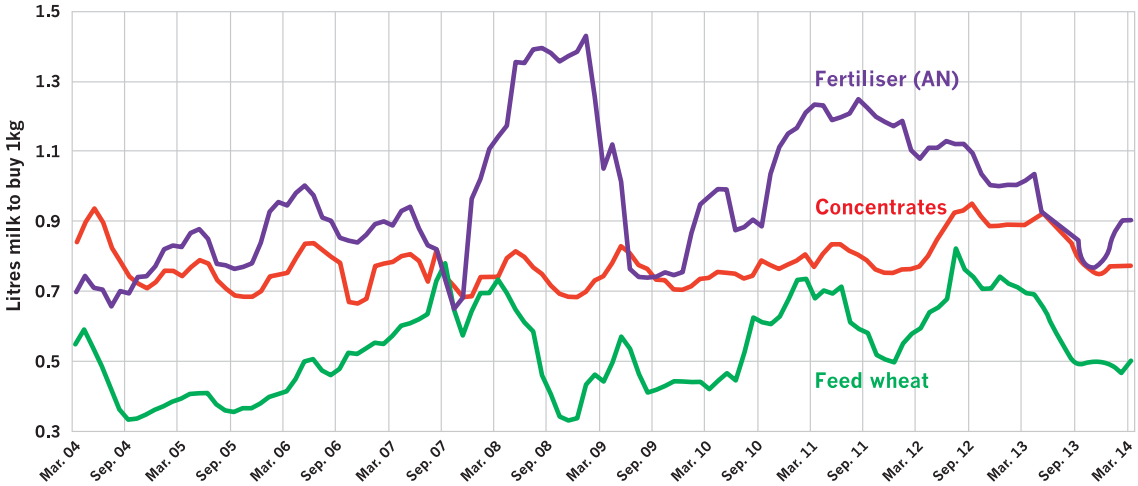
Milk value to fuel price ratios

Source: DairyCo



Milk value to feed and fertiliser price ratios

Source: DairyCo



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Milk price analysis

Dairy Manager conventional costed herds have seen milk price increase 3.59ppl in 12 months and 8.08ppl since the dip of 2009-2010, although costs have been rising too.

Milk price and purchased feed costs – Yearly comparisons

HOLSTEIN/FRIESIAN, CONVENTIONAL HERDS Year ending March		2010	2011	2012	2013	2014
Milk price per litre	pence	24.02	24.88	27.92	28.51	32.11
Purchased feed cost per litre	pence	6.49	6.72	7.51	8.85	8.94
Feed costs as a % of milk price		27.0%	27.0%	26.9%	31.0%	27.8%

The big questions now are has it peaked and how fast could it drop? Indications are that prices holding at this level for 2014-2015 are unlikely, with DairyCo Datum figures showing a smaller, 3.59ppl gap between April to April prices compared with March to March at 3.78ppl.

There have also been some price cut announcements by major buyers of 1.25-2ppl taking effect in spring and summer 2014. Spring milk production has surged ahead against a background of falling global dairy commodity prices.

Another feature of the year to March 2014 is that the gap between top and bottom milk prices paid has halved to 2.64ppl, based on level supply. The top milk price having increased by about 1ppl and the bottom price by 4.6ppl, reflecting the strong demand for milk and need for lower paying processors to set a more competitive price to keep suppliers.

Best vs lowest milk prices – calculated based on level supply

Year ending		Mar 10	Mar 11	Mar 12	Mar 13	Mar 14
Top	ppl	27.29	29.01	32.07	33.57	34.52
Bottom	ppl	19.15	23.81	27.11	27.28	31.88
Difference	**ppl**	**8.14**	**5.19**	**4.96**	**6.29**	**2.64**

Source: DairyCo

Herd size bands

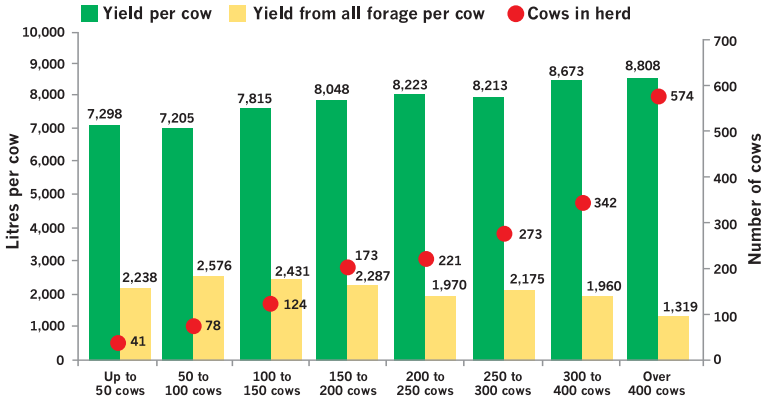
An increase in herd size results in a significantly higher milk price, but is failing to deliver a similar trend in margin over purchased feed per litre.

Milk price for the largest herds is 2.51ppl higher than for the smallest herds, having decreased from a 3.33ppl gap in the previous year, as demand for milk and milk price generally has risen.

However, the only herd size band which has a markedly different margin per litre is the up to 50 cow band. Above this, the variation is less than 0.31ppl.

While larger herds have a higher stocking rate, it is clear their ability to use forage is being limited with just 15% of the milk coming from forage for herds over 400 cows.

Herd performance by herd size band



The result of this and pushing for more yield is an increase in feed costs by 1.7p a litre between 50-100 cow herds and over 400 cow herds.

Large herds and high yields should allow the spread of overhead costs, but the potential extra cost of feed per litre needs to be taken into account in budgets when planning increases in herd size to assess the impact on overall profits.

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Annual results – Year end March 2014

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		41	78	124	173	221	273	342	574
Stocking rate	cows/ha	1.71	1.92	2.28	2.42	2.37	2.69	2.80	2.81
MILK PRODUCTION									
Yield per cow	litres	7,298	7,205	7,815	8,048	8,223	8,213	8,673	8,808
Yield from all forage per cow	litres	2,238	2,576	2,431	2,287	1,970	2,175	1,960	1,319
Milk price	pence	30.52	31.16	31.63	32.01	32.18	32.36	32.67	33.03
FEED									
Concentrate use per cow	kg	2,438	2,168	2,386	2,498	2,684	2,624	2,870	3,119
Concentrate use per litre	kg	0.33	0.30	0.31	0.31	0.33	0.32	0.33	0.35
Concentrate price per tonne	£	268	263	261	256	248	250	244	247
Other purchased feed cost per cow	£	9	32	70	84	101	107	117	115
Total purchased feed cost per cow	£	663	602	692	724	767	762	818	886
Total purchased feed cost per litre	pence	9.09	8.36	8.86	8.99	9.33	9.28	9.43	10.06
MARGINS									
MOPF per cow	£	1,564	1,642	1,780	1,852	1,879	1,895	2,016	2,024
MOPF per litre	pence	21.43	22.80	22.77	23.02	22.85	23.08	23.24	22.98

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If you feel you and your herd team could benefit from well researched strategic or practical advice our **HowsMyHerd®** or **One2One Consultancy** services may be for you – call Kingshay now to sign up for an assessment.

Health trends

Health issues that lead to loss of milk yield and increase vet and med costs, particularly when milk prices are high can hit bottom line profits but are often not easy to see in farm accounts. Kingshay's **Health Manager** service reports both physical and financial results for all health issues.

Average mastitis cases of herds monitoring their herd health on Kingshay's **Health Manager** service have dropped significantly this year, along with lower cell counts and fewer culls for mastitis. Last year average mastitis cases were at 58 cases per 100 cows, with rolling cell counts at 182('000). This year cases have dropped by 11% to 52 cases per 100 cows with a rolling cell count of 165('000). This drop of 11% equates to a saving of £1300 for the average producer.

A similar improvement was also seen on the top 25% of herds. Lameness and other health incidences have not changed as much compared to last year.

Mastitis and lameness have the highest cases per 100 cows and this is where the biggest savings can be made by aiming to lower them by 10% or more.

Monitor your herd's health incidences and calculate the cost per case using Kingshay's **Health Manager**. How do your health costs compare?

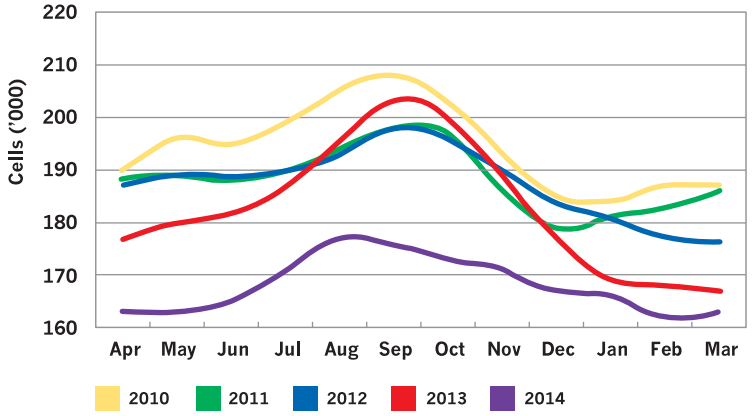
Cases per 100 cows	Group	Top 25%	Estimated cost per case	Difference
Mastitis	52	22	£284	£8,520
Lameness	45	23	£212	£4,664
Milk Fever	6	2	£241	£916
Displaced Abomasums	2	1	£280	£336
Difficult Calvings	5	2	£419	£1,341
Retained Cleansings	7	4	£429	£1,201
Abortions	3	2	£506	£455
Metritis	9	4	£217	£1,042
Total				**£18,475**

Mastitis Cases, Cell Counts and Culling for Mastitis

All three of these Key Performance Indicators have shown a significant improvement. Mastitis cases started to see a downward trend at the end of summer 2012. Cases continued to remain lower during the winter and into the spring of 2013. The cold slow start to the grazing season followed by a relatively dry summer meant that the usual peak of mastitis cases in the summer was lower than expected in August. This also correlated to a lower peak in somatic cell counts in August.

This improvement could be attributed to a number of factors including the drier weather conditions during last summer. Changes to milking routine, environment and preventative practices have also contributed to better conditions during the winter months.

Bulk somatic cell counts



Average Somatic cell counts have seen the most dramatic change over the last 5 years, with producers reducing levels to stay below 200,000. What will we see this coming year?

Culling for mastitis has also seen a reduction in the past 2 years from 9.2% of leavers going for mastitis to 8.7%.

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Fertility facts

Fertility figures from herds using **Health Manager** have shown an improvement in the last 12 months with average calving interval falling to 412 days. A slight drop in culling for infertility has also contributed to lower infertility costs.

The cost of infertility for a typical 150 cow herd achieving 8,500 litres per cow calculates at 3.11 ppl or £264 per cow with a 412 day calving interval.

Using a milk price of 32ppl and feed costs at £260 per tonne this equates to £5.11 per day of extended calving interval. This is more than double previously quoted figures of £2.50 per day when milk price averaged 18ppl and feed costs were £130 per tonne.

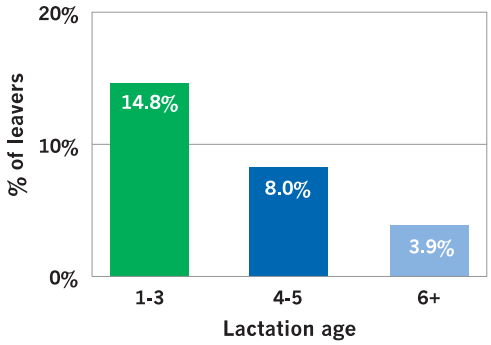
The top 25% herds ranked by fertility indices have seen the most improvement with calving interval reduced to 392 days and a cost of an extended calving interval of £4.22 per day.

Culling for infertility

Fertility costs vary widely across herds. Within that range, culling for fertility is a big factor. **Health Manager** figures show of the 26% of cows leaving the herd due to fertility issues, nearly 15% are in their first 3 lactations. This highlights the need for close attention to the "Cinderella" enterprise of heifer rearing to ensure replacements are well grown and not compromised in their early lactations.

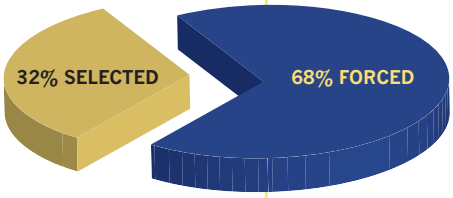
Fertility results	Average	Top 25%
Calving interval	412	392
Days to first service	76	66
Services per conception	2.9	2.3
Conception rate	36%	48%
100 day in calf rate	37%	50%
200 day not in calf rate	25%	15%
Infertility culling rate	6.1%	4.9%
Cost of infertility (ppl)	3.11	1.45
Cost of infertility (£/Cow)	£264	£124

Fertility related culling by lactation age



Reasons for cows leaving herd

Health and fertility were the main reasons given for 68% of cows being culled in the year to March 2014, according to data from herds using the **Health Manager** option within **Dairy Manager**.



The average culling rate of 24% has dropped by 2% compared to last year with some progress being made in culling for mastitis and cell counts.

Mastitis, lameness and a group of infectious diseases are the main factors behind 41.5% of cows leaving herds for health reasons. Fertility reasons account for a further 26% of culls. Comparing these forced reasons for culling with data from previous years shows little change in most key reasons or overall herd culling rate, even with the trend for increased yields and large increases in herd size. However, culls due to mastitis appear to be on a downward trend, with an annual average of 9.2% of culls for the three year period from March 2011 to 2014 (to reduce the annual variation seen), compared with 12.1% a year for 2004 to 2007.

The high rate of forced culls means just 32% of cows are selected and some of these are indirectly related to health reasons. Interestingly, as it is also related to mastitis, culling for high cells counts has also reduced from 7% a year for 2004 to 2007 to 5% for 2011 to 2014.

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

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

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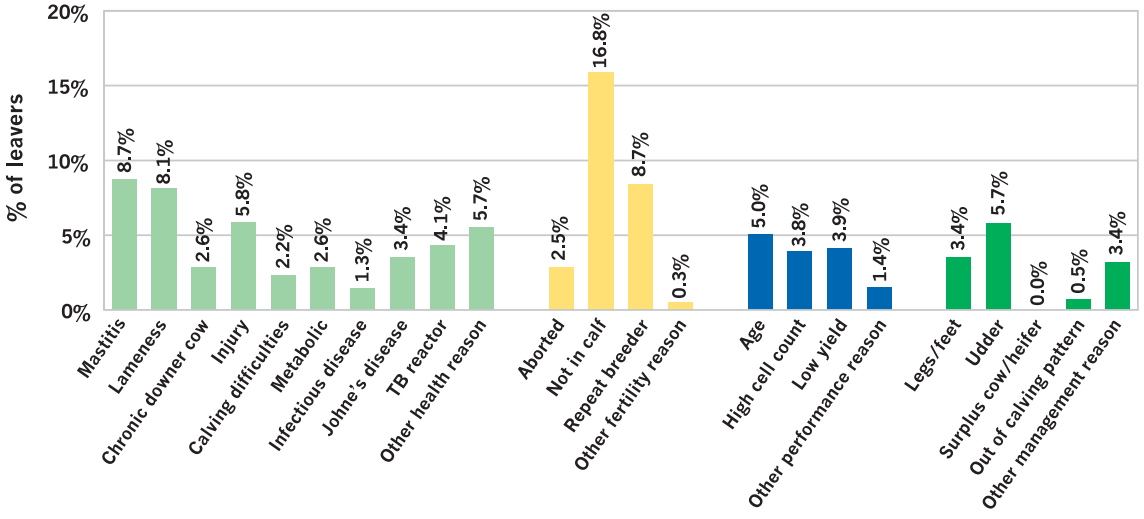
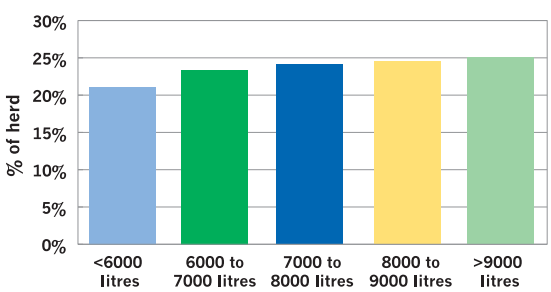
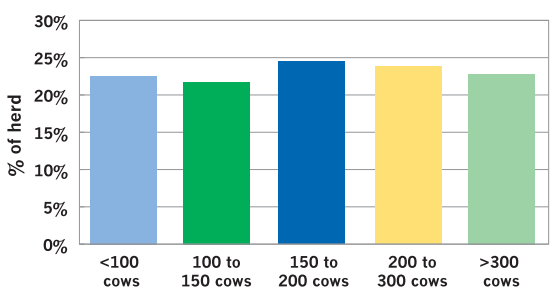
Individual leaving reasons



Cows leaving herd by yield level (culling rate)



Cows leaving herd by herd size band (culling rate)



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Organic update

Oversupply of organic milk 10 years ago saw margins just 1.75ppl higher than for conventional herds, leaving many herds struggling to justify the additional costs, but now the gap is almost 5ppl.

While the 2012-2013 results reflect a poor year for forage, the push for milk seen in the year to 2014 was likely influenced by a 3.95ppl increase in milk price. However, this meant there was little recovery in the milk from forage losses which remain 400 litres below the peak year of 2011-2012.

Milk from forage has reduced over the past 10 years, particularly in the last two years, down to 42% from 47%, with yields increasing 200 litres to 6900 litres. During the same period conventional herds have seen yield from forage reduce from 38% to 29%, with yields increasing 500 litres to 7,996 litres.

Although milk from forage remains higher than conventional herds, reflecting its importance in organic standards, ranking herds by yield from forage shows as wide a financial gap between top and bottom 25% herds at 3.89ppl. For a typical organic herd producing 1.4m litres, this equates to a £54,460 difference.

In terms of physical performance this results from the top 25% producing 51% or 3748 litres from forage, with a yield of 7356 litres and milk price of 37.29ppl and the bottom 25% producing 26% or 1774 litres from forage, with a yield of 6781 and milk price of 37.23ppl. Therefore, the margin per cow is £405 higher for top 25% herds.

Organic year-on-year comparison

HOLSTEIN/FRIESIAN, ORGANIC HERDS		Year ending March 2013	Year ending March 2014	Difference	% change
Cows in herd		199	204	6	2.8%
Stocking rate	cows/ha	1.86	1.77	-0.09	-4.8%
MILK PRODUCTION					
Yield per cow	litres	6,600	6,817	217	3.3%
Yield from all forage per cow	litres	2,749	2,821	71	2.6%
Butterfat	%	4.02	3.96	-0.06	-1.5%
Protein	%	3.22	3.24	0.02	0.8%
Milk price	pence	33.84	37.49	3.65	10.8%
FEED					
Concentrate use per cow	kg	1,881	1,935	54	2.9%
Concentrate use per litre	kg	0.28	0.28	0.00	-0.4%
Concentrate price per tonne	£	333	337	3	1.0%
Other purchased feed cost per cow	£	6	12	6	91.0%
Total purchased feed cost per cow	£	633	664	30	4.8%
Total purchased feed cost per litre	pence	9.60	9.74	0.14	1.5%
All purchased feed @ 86% equivalent per cow	kg	1,900	1,972	73	3.8%
MARGINS					
MOPF per cow	£	1,600	1,892	292	18.2%
MOPF per litre	pence	24.24	27.76	3.51	14.5%

Channel Island update

Channel Island herds have regained the previous year's losses in yield from forage and reduced concentrate use and feed costs per litre in the year to March 2014, although only recovered half the losses in milk yield.

Channel Island year-on-year comparison

CHANNEL ISLAND, CONVENTIONAL HERDS		Year ending March 2013	Year ending March 2014	Difference	% change
Cows in herd		155	161	6	3.6%
Stocking rate	cows/ha	2.58	2.51	-0.07	-2.7%
MILK PRODUCTION					
Yield per cow	litres	5,378	5,532	154	2.9%
Yield from all forage per cow	litres	1,718	1,919	202	11.8%
Butterfat	%	5.37	5.32	-0.05	-1.0%
Protein	%	3.75	3.77	0.02	0.5%
Milk price	pence	31.98	36.20	4.22	13.2%
FEED					
Concentrate use per cow	kg	1,913	1,879	-34	-1.8%
Concentrate use per litre	kg	0.36	0.34	-0.02	-4.5%
Concentrate price per tonne	£	256	263	7	2.7%
Other purchased feed cost per cow	£	58	67	8	14.3%
Total purchased feed cost per cow	£	549	561	13	2.3%
Total purchased feed cost per litre	pence	10.21	10.15	-0.06	-0.6%
All purchased feed @ 86% equivalent per cow	kg	2,163	2,133	-30	-1.4%
MARGINS					
MOPF per cow	£	1,171	1,441	270	23.1%
MOPF per litre	pence	21.78	26.05	4.28	19.6%

Over the past 10 years, Channel Island herds have seen smaller increases in herd size and cow yields than conventional Holstein Friesian herds. This is perhaps driven by proportionally steadier increases in milk price over the five years to 2013, particularly when their higher milk quality is taken into account. However, the year to March 2014 saw a bigger jump in milk price, increasing by 4.65ppl compared with 3.57ppl for Holstein Friesian herds.

Without this push for yield, Channel Island herds have kept concentrate levels and yield from forage at a similar level of 35% of the milk produced with 300 litres more from grazing, actually reducing the feed rate per litre by 0.01 to 0.34kg/litre.

However, when herds are ranked by milk from forage it reveals the top 25% produce 51% from forage and the bottom 25% just 19%. The bottom 25% do produce milk at higher butterfat contributing to a 1.07ppl higher milk price, so the margin per litre difference is 4.1ppl from a feed cost which is 5.17ppl higher.

Even with an extra 150 litres of milk produced by bottom 25% herds, the margin is £184 per cow lower than that of the top 25% herds which achieve a margin of £1549 a cow.

At a typical annual production of 900,000 litres, the difference in margin per litre equates to £36,900 between top and bottom 25% herds ranked on yield from forage.

It is interesting to note the Channel Islands breeds produce 507kgs of milk solids from a 450kg liveweight animal; a yield of 1.13kg milk solids per kg liveweight, compared to the Holstein Friesian solids yield of 538kg from a 650kg animal; a yield of 0.90kg milk solids per kg liveweight. On a constituent based milk contract, the conversion efficiency of the Channel Island breeds should not be overlooked.

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