

Delivering a more
competitive industry
through optimal dairy
systems

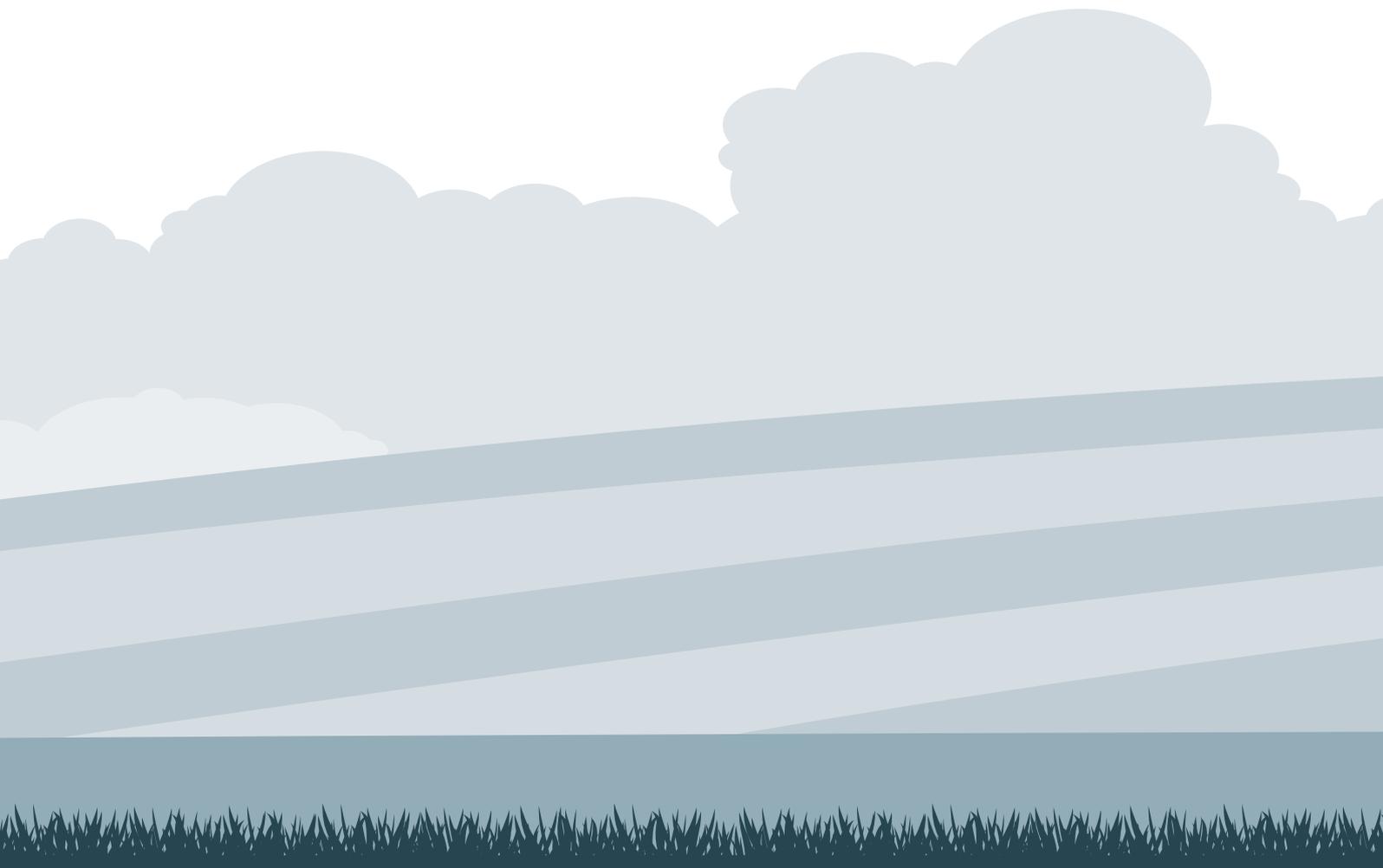
September 2017



AHDB's purpose is to inspire farmers and the industry to succeed in a rapidly changing world. A key strategic priority is to inspire British farming to be more competitive and resilient.

AHDB believes that the Great British dairy industry can achieve significant competitive gains at farm level by a narrowing of production systems. Farmers should choose a system that enables them to compete, matches their market segment, complements their mind-set and takes account of any on-farm limitations or opportunities.

A resilient, more competitive dairy farming supply base attracts processing investment and helps generate a world class, efficient and focussed industry.



Context

Brexit brings numerous opportunities to displace dairy imports or access fast-growing export markets, but also a number of key challenges.

It is likely to expose the British dairy sector to more competition, less support and increased volatility. We can plausibly assume that:

- There will be less direct income support to farmers
- Regulatory burden is unlikely to be significantly lessened
- The labour supply will be tighter and potentially more costly
- Tariff-free access to the EU market may be lost
- There will be more competition with key overseas dairy nations

The industry also faces challenges in relation to animal health and declining consumer demand, as well as the rise of dairy alternatives.

In order to thrive the industry needs to be more outward looking, inspired by the best systems and practices in the world. That means a joined-up approach to driving efficiency, with every level of the chain working together for the benefit of everyone involved.

Markets

Raw milk is a basic commodity so cost leadership is crucial. While the industry has reduced costs through rationalisation and milk productivity gains, further supply-chain efficiency gains are needed.

Half of GB's milk is destined for fresh liquid milk, with stable all year round demand. Whilst exposed to market forces and domestic competition, these supply chains are protected, somewhat, from global supply and demand pressures.

Some retailers align themselves with farmers to maintain supply, providing the farmer with some insulation from volatility through 'cost-plus' contracts. Other retailers offer minimum price guarantees. Short-term opportunities and threats of Brexit are limited for this market.

A number of farmers supply the fresh liquid milk market on unaligned contracts. While still liquid focussed, in many cases these farmers are just as exposed to volatility as those supplying manufacturing contracts.

The remaining milk goes into manufacturing, with a wide variation in capacity, capability and age of processing facilities across the country. Milk entering this market is subject to intense competition and volatility. The post-Brexit threats for this section of the industry bring a renewed efficiency focus, while the opportunities are vast and exciting.

The industry should be able to compete in this market segment and there is potential for import displacement on products such as Cheddar and yoghurt. However, this necessitates a change in mind-set from both farmers and manufacturers. Processing investment is needed to increase capability and flexibility, and provide reassurance to retailers about a sustainable, price-competitive supply.



Optimal dairy systems

Following discussions with a number of stakeholders and farmers across the industry, our sense is that those farms that focus on a clearly defined production system tend to be more profitable and competitive. We also know the best British dairy farmers can compete on a 'marginal cost' basis with the best in the world. However, there is significant scope for the industry to narrow the range in performance.

The key is to identify the production systems that will enable British farmers to compete, while still satisfying both domestic and international market demand.

Fundamentally, we believe that British dairy farmers should focus on one of two systems:

- **Block calving system** – all cows calve within a 12 week window (spring or autumn), get back in calf, peak in milk production and are dried off together
- **All year round calving system (AYR)** – cows calve all year round with no seasonal emphasis, and no period where the entire herd is dry. Inputs may vary from extensive herds mainly grazing to fully housed herds with very high yields

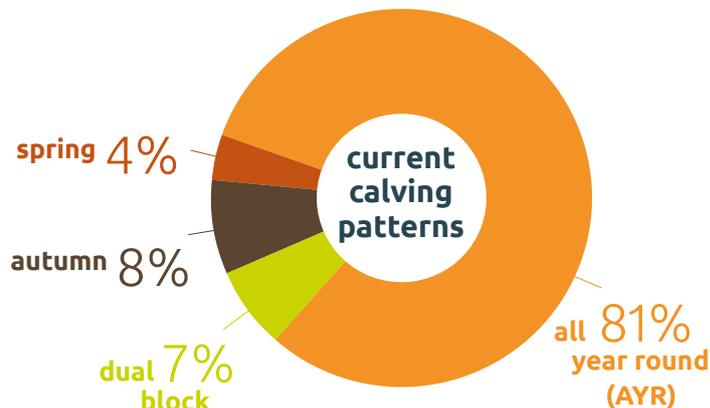
In Britain, over 80% of dairy farmers identify themselves as all-year-round calvers. This raises a question as to whether this is a conscious decision based on every farmer deciding what is the best system for them, or whether the system has just evolved.

We want farmers to understand their current system, judge their performance by holding a mirror up to themselves and make a conscious, strategic choice about the system that is optimum for them. The following is designed to help farmers start to make that decision.

Five year average cost of production to 2015/16

	Average performance			Top 25% performance		
	Spring (ppl)	Autumn (ppl)	AYR (ppl)	Spring (ppl)	Autumn (ppl)	AYR (ppl)
Full economic costs of production	27.9	29.0	30.3	24.5	25.6	26.7
Saving v AYR	2.4	1.3		2.2	1.1	

Sources: Milkbench+ and Promar International & partners



Block calving system (spring or autumn)

The essence of block calving is to do one thing at a time to a very high standard (calve down/rear heifers/spot bullers/get cows in calf/dry off) with real cost and labour efficiency.

Evidence shows that spring block calving herds produce milk for 2.1–2.4ppl less than an AYR herd. The best autumn block calving herds are every bit as competitive. Higher costs are offset by higher yields and a better price due to seasonality. For autumn block the cost savings have been 1.1–1.3ppl.

This analysis is based upon farmers own definition of their calving system. Savings may be greater since milk profile analysis suggests that the blocks are looser than a tight 12 week block calving system. Discussions with farmers support this assumption.

Conventional spring block calving herds five year average to 2015/16

	Cow yield (litres)			
	5,572	5,418	5,572	5,418
	Average ppl	Top 25% ppl	Average £/cow	Top 25% £/cow
Income (milk and calf sales)	31.2	31.8	1,741	1,774
Herd replacement costs	3.3	3.3	186	186
Variable costs	10.8	9.2	604	513
Overheads (cash and non-cash)	13.8	12.0	769	670
Full economic costs of production	27.9	24.5	1,559	1,369
Full economic net margin	3.3	7.3	182	405

Sources: Milkbench+ and Promar International & partners

Conventional autumn block calving herds five year average to 2015/16

	Cow yield (litres)			
	7,878	7,859	7,878	7,859
	Average ppl	Top 25% ppl	Average £/cow	Top 25% £/cow
Income (milk and calf sales)	31.3	32.4	2,468	2,550
Herd replacement costs	2.6	1.9	204	151
Variable costs	12.7	11.4	1,000	900
Overheads (cash and non-cash)	13.7	12.3	1,079	966
Full economic costs of production	29.0	25.6	2,283	2,017
Full economic net margin	2.3	6.8	185	533

Sources: Milkbench+ and Promar International & partners

Farmers operating block calving systems report a significant lifestyle benefit by having a break at certain times of the year.

Data run through AHDB's Milk Price Calculator shows:

- Seasonality payments mean typical autumn block calvers achieve a slightly higher price from standard manufacturing contracts than AYR
- Spring block calving herds typically receive 1ppl less than AYR herds on manufacturing contracts
- Both block calving herds typically achieve lower prices than AYR supplying the liquid market.

Price variations differ significantly depending on milk contract, and farmers are advised to run their own numbers through the calculator.

Benefits and limitation of operating a block system compared with AYR:

Benefits	Limitations
Typical overall labour saving	Seasonal labour requirement
Focused seasonal management	Potential capacity constraints on farm
Break in regime each year	May not meet milk buyer requirements
Potentially higher margin	Potentially lower milk price



AYR calving system

AHDB's Evidence Report shows farmers who operate AYR systems can achieve production costs comparable with the best block-calving operators.

Farmers may choose AYR based on mind-set, management capability, limitation of physical assets, or to satisfy a milk contract or market that is willing to pay a premium. It's critical that farmers operating AYR should make the decision consciously rather than ending up there by default or due to the challenges of managing a tight calving block.

AHDB's Milk Price Calculator shows a typical AYR calving herd supplying the liquid market would achieve 1.5ppl more than a spring block herd. Against autumn block herds the AYR milk price is only marginally higher.

For manufacturing contracts, milk price differences are smaller, and autumn block herds do average slightly higher prices. Price variations differ depending on milk contract. Farmers are advised to run their own numbers through the calculator.

Key benefits and limitation of operating an AYR system as opposed to a block system:

Benefits	Limitations
More consistent labour requirement	Potentially higher overall labour costs
Reduced risk of farm capacity issues	Farm inefficiencies can be hidden
Matches milk buyer requirements	No break in regime
Potentially higher milk price	Potentially lower margin

AYR can be more challenging due to complexity of doing everything all of the time. Labour utilisation is typically greater as are fixed and variable feed costs. A premium may be needed to justify these additional costs.

Supply chain impact

British processors have benefited from relatively flat milk production and have streamlined capacity to match. They would struggle to match Ireland or New Zealand's block calving approach because of a larger domestic market, satisfying the liquid milk market and lack of spare processing capacity to deal with a higher production peak.

A cheese processor moving to solely spring block calving system could lead to additional costs of 1.1ppl–1.5ppl; for autumn block calving the impact is much lower at just 0.3ppl.

AHDB is calling for a joined-up industry approach offering more flexibility to farmers adopting a block-calving approach. It is recognised that a number of processors require a relatively level profile of milk. However, that requirement is from the entirety of their milk pool. They do not need every farmer to deliver level supply individually. Two block autumn calving herds for every spring block calving herd could provide an acceptable milk profile to processors. This effectively removes any adverse impact on processors while still delivering on-farm savings.

Such an approach could unlock the latent opportunity for more dairy farmers in Britain to be even more competitive than they are currently without undermining the performance of milk processors or market requirements. Seasonality schemes should then reflect this more flexible approach.

Conventional AYR calving herds five year average to 2015/16

	Cow yield (litres)			
	8,005	8,161	8,005	8,161
	Average ppl	Top 25% ppl	Average £/cow	Top 25% £/cow
Income (milk and calf sales)	31.2	32.3	2,495	2,635
Herd replacement costs	3.0	2.5	237	203
Variable costs	13.8	12.5	1,101	1,017
Overheads (cash and non-cash)	13.5	11.7	1,083	958
Full economic costs of production	30.3	26.7	2,421	2,178
Full economic net margin	0.9	5.6	74	457

Sources: Milkbench+ and Promar International & partners

Proposed approach to dairy KPIs

Regardless of chosen system, benchmarking will drive performance and AHDB proposes a set of Key Performance Indicators:

- Dairy enterprise KPIs – customised to system type, the key profitability drivers that will deliver the financial performance required
- Business financial measures – irrespective of system type, focused on the three financial measures that every business should know, understand and benchmark their performance against

AHDB will identify and refine performance level targets through further consultation and as industry data is gathered.

Dairy Enterprise KPIs – the drivers of system specific profitability

Block calving system	AYR calving system
Cows calved within the first six weeks	Pregnancy rate
Solids output per ha	Age at first calving
Milk output from forage	Total feed cost
Herd replacement rate	Average daily lifetime yield
Cash overheads as a proportion of income (output)	Cash overheads as a proportion of income (output)
Genetic merit	Genetic merit

Herd health performance remains critical, but the measure is incorporated into indicators such as replacement rate, fertility, average daily lifetime yield, or overall cost of production.

Business Financial Measures

Area of focus	Measure
Current and future competitiveness	Full economic cost of production in pence per litre or £'s per kg of solids
Business ability to generate wealth	Return on tenant's capital
Comparable measure of profitability	Income (output) retained

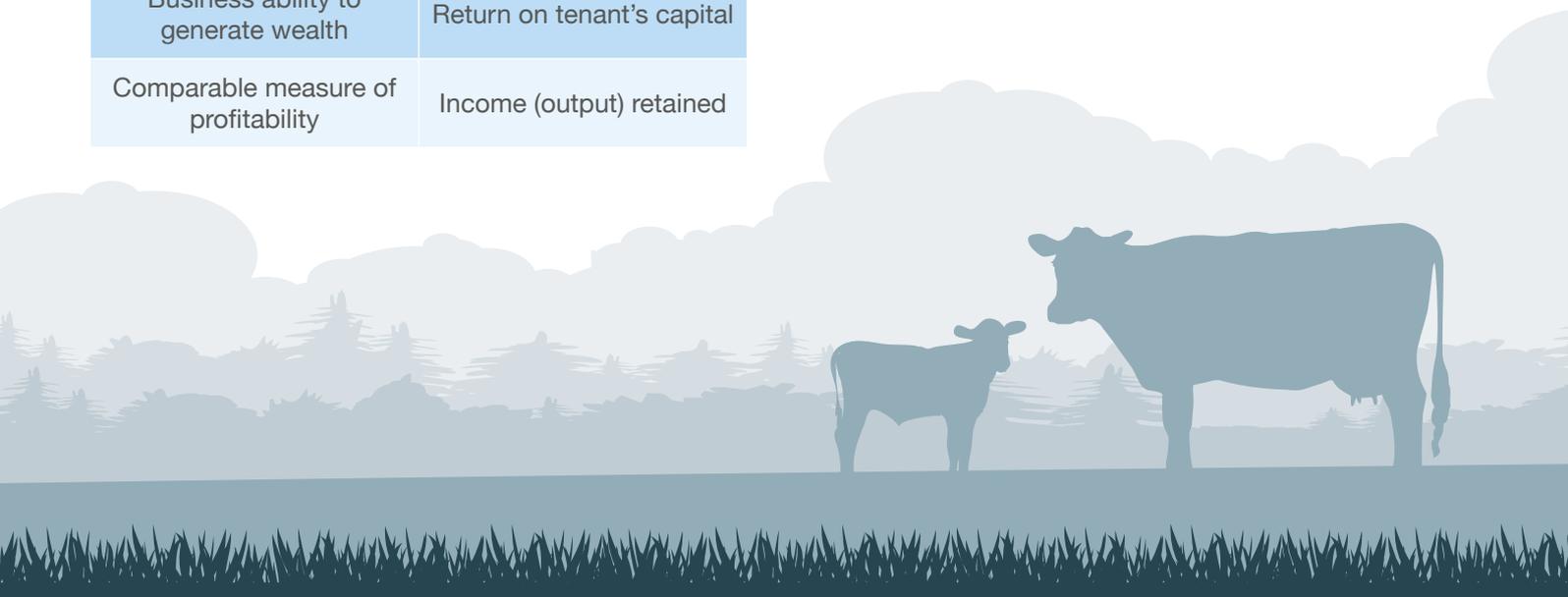
AHDB's Commitment

Strategic business decisions should have a long term horizon and AHDB recognises that those ambitions may take a number of years to realise. Irrespective of the system you choose, AHDB will support British dairy farmers by:

- Increasing system specific knowledge
- Rolling out strategic dairy farms operating both systems to demonstrate best practice and encourage farmer to farmer learning
- Incorporating research projects common to producers, as well as system specific
- Enabling farmers to benchmark against other farmers on the same system using FarmBench
- Providing relevant market intelligence tools and analysis
- Assessing the impact of switching system and support farmers based on their choice

AHDB will showcase and highlight how good the best performers are and what is achievable through inspiring excellence in both production systems.

The choice of system is ultimately down to the farmer. What is important is to make a conscious decision about which system is optimal based on their mind-set, farm infrastructure and market requirement.



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