Greater weighing for health and fertility sees some sire PLIs soar

Index changes set to increase cow efficiency

August saw big changes for dairy cattle breeders, as both the revised Profitable Lifetime Index (£PLI) and the new Spring Calving Index (£SCI) were published for the first time. We spoke to DairyCo and a leading UK breeder to find out more.

text **Ann Hardy**

The latest bull proof run saw a big shake up. Both PLI and SCI figures look slightly unfamiliar to producers, as £PLIs now weigh in at up to £623 for the number-one proven Holstein sire – previously they were just under half this amount – while the top £SCIs are in the region of £400.

"The principle behind both indexes is the same, with a bull's index indicating the additional profit his daughters can be expected to earn over their lifetime, compared with the daughters of a sire whose index is zero," explains DairyCo's head of genetics Marco Winters.

"However, the £PLI remains the main breeding index for use in most UK farming situations, while the £SCI has been developed specifically for spring, block-calving herds that place a heavy reliance on grazed grass and are targeting production of around 4,500 litres," he says.

Commercially efficient

It's very important that users choose the right index for their farming system as subtle differences between the two indexes strongly favour cows for one system over another. However, in both cases, health, functional type, fertility, welfare and costs of production are all accounted for, with the result that both indexes identify bulls that breed the most commercially efficient cows.

Sam Foot is a Dorset-based producer whose herd has benefitted from using £PLI and he says he's been breeding for this multi-trait index since it was first introduced in 1999.

Sam Foot: "I'm particularly keen to use bulls with a good Fertility Index"

The 800 cows he runs across three herds have reaped the rewards of this policy, alongside good management, with average milk sold running at 10,500 litres; somatic cell counts at 101 and calving interval at 395 days. All three of his herds are now in the UK's top 25 ranked on £PLI*.

However, Mr Foot says he has always dug deeper than the headline £PLI figure and he also takes note of its constituent parts.

"I'm particularly keen to use bulls with a good Fertility Index as I believe this tells me more about his daughters than any other single index," he says.

"If a cow is going to get in calf, she has got to fit the system. So for me, the Fertility Index is the most important component of £PLI, as daughters of a high Fertility Index bull will not only have the ability to calve but also walk well and have good mastitis resistance too."

Daughter fertility

The latest revisions to £PLI are described by Mr Foot as 'basically what we do anyway', as the new index places greater emphasis on daughter fertility than the old. It also rewards good functional type, udder health and lifespan, and it introduces a new maintenance cost to recognise efficiency of milk production.

With the maintenance cost linked to the size of the cow, Mr Foot again observes that this reflects the policy in operation on his farm.

"We select for high £PLI bulls with

The new Spring Calving Index (£SCI)

The £SCI was introduced this summer for spring, block-calving herds. Intended for systems relying heavily on grazed grass, the index places a strong emphasis on health, an even greater emphasis than £PLI on daughter fertility, calving ease and the cost of maintenance and favours milk quality over volume. The herds that are advised to use the £SCI are those targeting around 4,500kg milk, which have different costs of production compared with traditional, supplement-fed herds.

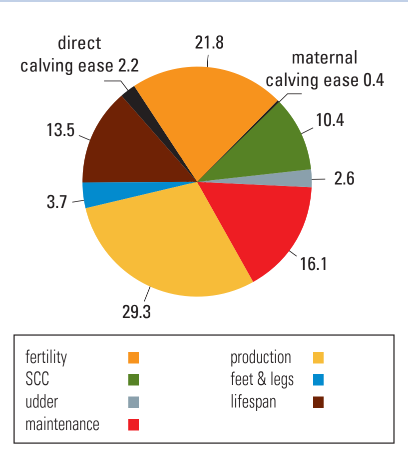
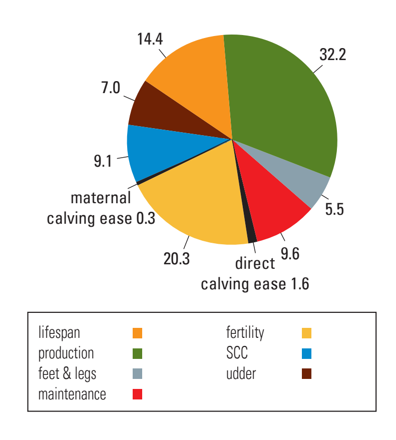


Figure 1: Percentage weightings of traits within new Spring Calving Index (£SCI)

The revised £PLI

Profitable Lifetime Index (£PLI) is designed to help producers to breed dairy cows with the greatest genetic potential for lifetime profit. It is revised periodically to reflect changes in input costs and the milk price, new market projections and the growing knowledge of the breeding industry.
The revision of £PLI in August 2014 saw the emphasis shift to around 68% health and fertility (previously it was 55%) and 32% production. Within this change there is an increased emphasis on female fertility; both direct and maternal calving ease have been introduced and a new figure has been added to reflect the costs of maintaining the cow (see Figure 2).
This gives the index a greater recognition of the efficiency of milk production. £PLI is intended foruse across the vast majority of UK dairy herds, including those which make use of grazing and are supplement-fed.

Figure 2: Percentage weightings of traits within £PLI



Marco Winters: "It's important to use the right index for your farming system"

particularly good health and fertility and try to use bulls with less than 1 point for stature.
"The taller they are, the harder they fall," he figures, referring to a rugby analogy. "If a tall, lanky winger gets a big tackle he may struggle to get up but the short, stockier hooker can take the tackle and gets up much quicker.
"This is relevant to cows at calving time, when bulling, at the feed fence and in almost any other situation," he says.
Asked whether he considers the smaller, more robust cows produce less milk he says: "If we select on high £PLI and also consider the milk Predicted Transmitting Ability (PTA), we don't find we have a problem.
"Our cows are already genetically capable of producing plenty of milk as we've been using £PLI for such a long time," he says. "And if a decision comes down to two bulls that we like, we will always choose the bull with the most milk."
Describing himself as a 'typical dairy producer', he says: "We have always tried to breed efficient cows and the changes to £PLI are all about improving efficiency. It ticks all the boxes we have been ticking ourselves and sways us more towards our kind of cow." |

The top UK herds ranked on £PLI are published on the DairyCo Breeding+ website through www.dairycobreeding.org.uk and the Holstein top herds report

Shake up: changes to trait weightings in PLI mean that figures look different in the latest bull-proof run