



Profitable Lifetime Index - £PLI

An economic breeding index for UK autumn block and all year round calving herds

Spring 2014

What is the £PLI?

The national Profitable Lifetime Index (£PLI) is published by DairyCo Breeding+ as part of its genetic evaluation service. The £PLI is a within-breed genetic ranking index developed for UK dairying conditions in consultation with industry partners and is expressed as a financial value. From August 2014 an updated version of £PLI will be available.

The updated £PLI will:

- ✓ Promote yield while protecting milk quality
- ✓ Increase emphasis on fertility
- ✓ Improve functional type - feet & legs and udders
- ✓ Increase emphasis on longevity
- ✓ Reduce costs associated with maintenance
- ✓ Improve udder health
- ✓ Improve calving performance

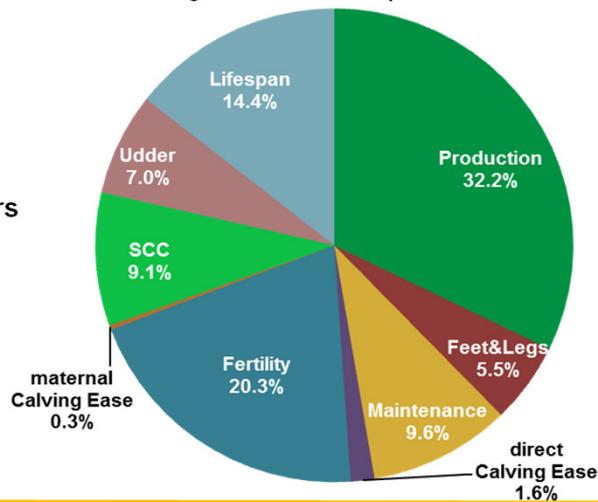


Fig 1: The percentage weightings of traits within the updated £PLI

£PLI explained

- The £PLI value represents the additional profit a high £PLI bull is expected to return from each of its milking daughters over her lifetime compared to an average bull of £0 PLI. The updated £PLI (Aug 2014) reflects the latest UK market and farming conditions.
- The £PLI is a within-breed ranking. Bulls of each dairy breed will be shown on a separate breed base and £PLI values from different breeds are therefore not directly comparable.

When to use the £PLI?

- The £PLI is recommended for use by the vast majority of UK farming operations; ranging from autumn block calving herds which graze in summer, to the herds which operate an all year housed system. Only for specialist spring block calving herds which maximise the use of grazed grass do we recommend using the £SCI instead.
- £PLI should be used as the initial screening tool in bull selection; then look within this group for the traits which most need improving in your herd. This will vary with individual herds but should include the lifespan and fertility index.
- Using the £PLI to select the best bulls will breed profitable cows for typical UK systems.

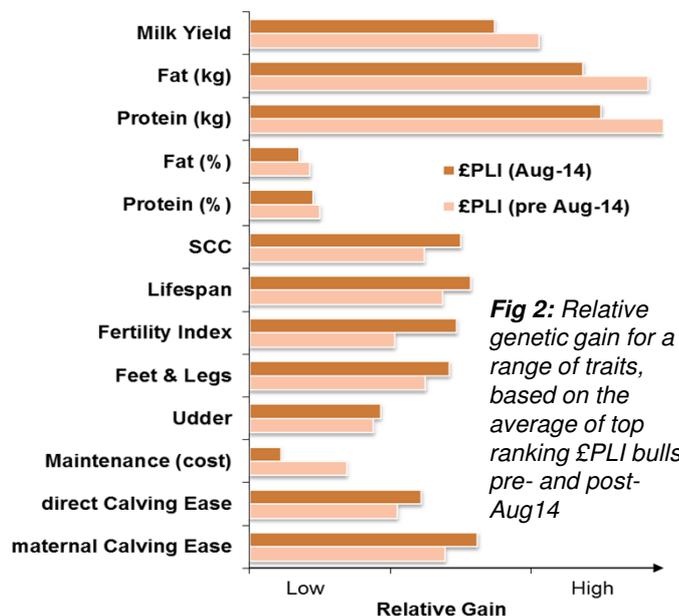


Fig 2: Relative genetic gain for a range of traits, based on the average of top ranking £PLI bulls; pre- and post-Aug14

UK genetic evaluations are undertaken and published by DairyCo three times a year: April, August and December. For more information visit www.dairycobreeding.org.uk

Our data partners



£PLI – Frequently asked questions

1. Why is £PLI being changed?

Profitable Lifetime Index (£PLI) has been changed periodically ever since its launch in 1999. The update in 2014 reflects changes in the milk markets and the availability of more health and welfare information. However, as before, £PLI continues to recognise dairy cattle with the greatest ability to generate profit during their lifetime.

2. What are the main changes to £PLI in 2014?

The previous £PLI placed approximately 45% of its emphasis on production and 55% on health and fitness. The revised £PLI has shifted to approximately 32% on production and 68% on health and fitness. Within this, there is increased emphasis on female fertility; direct and maternal calving ease have been introduced along with a maintenance cost to reflect the efficiency with which the cow produces milk.

3. Why has a maintenance cost been added?

Farmer experience and research indicate the greater cost of feeding a larger cow than a smaller one. If two cows are identical in every other way (production, health, fertility, etc) the smaller cow, which costs less to feed, will be more profitable and have a higher £PLI.

4. How is the cost of maintenance calculated?

The cost of maintaining a cow is related to its weight. As we don't routinely weigh dairy cattle, we have studied the traits most closely related to the cow's weight. These traits are stature, chest width, body depth and angularity. These traits are closely correlated to liveweight and are, therefore, used as an indicator of the costs of maintenance.

5. Have other factors that relate to the cow's weight been considered, such as calf values?

Liveweight as an indicator of maintenance has not been considered in isolation. The value of the heavier cull cow comes into the calculation, as does the higher value calf from a larger dam. The cost of rearing a larger heifer has also been considered in the revised £PLI.

6. The values for £PLI increased substantially in 2014. Why is this?

£PLI was last changed in 2007, since when inflationary increases in both input cost and the milk price have contributed to an increase in gross margin generated by higher £PLI animals. These changes in values have all been incorporated in calculations for the revised £PLI.

7. Can £PLI be used to compare cattle of different breeds with one another?

£PLI is a breed-specific index with all values and Predicted Transmitting Abilities (PTAs) calculated on each breed's own base. Anyone wishing to make cross-breed comparisons is advised to contact DairyCo for a conversion formula for this purpose.

8. Which type of herds should use £PLI as their main breeding goal?

The index is recommended as the primary selection tool for the majority of UK dairy herds and systems. £PLI should be used as an initial screening tool for bulls and, following this, producers are advised to place emphasis on traits which need improvement in their own herd. A new Spring Calving Index (£SCI) is available solely for producers operating a spring block-calving system making extensive use of grass.