



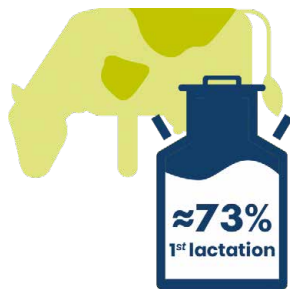
HealthyLife

Reducing carbon footprint by improving Lifetime Daily Yield

To meet the growing global population's nutritional needs sustainably, the full production potential of each animal on a farm needs to be realised. This involves maximising milk output while minimising resource usage to decrease the environmental impact. Specifically for dairy cows, this involves increasing the lifespan of dairy cattle and achieving a Lifetime Daily Yield of 20kg of milk per day for housed systems.

How can the HealthyLife program help?

The primary focus of the HealthyLife program is on the transition to lactation phase. HealthyLife is a practical and evidence-based program that supports farmers in elevating the Lifetime Daily Yield by striving toward herd-specific targets. With average lactation number in the UK sat between 2.8-3.2 there is a long way to go to reach our target of 5 lactations per cow.



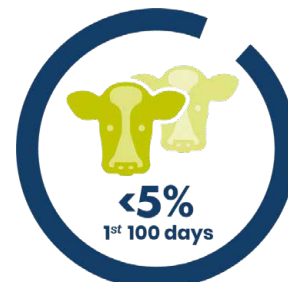
Heifers reaching a peak production of 70-73% of the herd.



Cows reaching peak production within 50-70 days after calving.



Loss of heifers less than 15%.



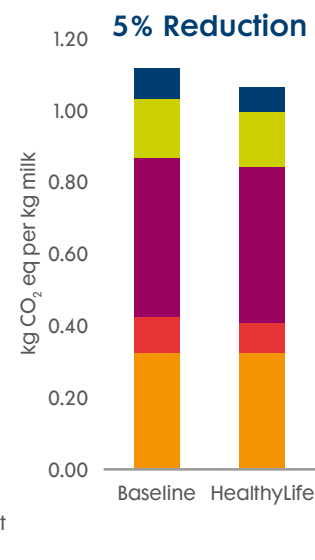
Involuntary herd culling rate during first 100 days in milk of less than 5%.

How does HealthyLife work to reduce carbon footprint?

The environmental impact of milk production can be reduced through increasing Lifetime Daily Yield, which is achieved through lower age at first calving, better transition to lactation, lower replacement rates and higher milk production per cow.

Dairy cows that follow a HealthyLife program are now proven to have a 5% reduction* in total carbon footprint:

- 34% lower replacement rate
- 2% and 3% higher fat and protein content



Reducing the age at first calving improves LDY. Studies by the Research Institute for Agriculture, Fisheries and Food (ILVO) in Belgium found that calving at 24 months reduces methane emissions by 3.1%. Heifers calving at 22 to 24 months show optimal fertility and higher milk yield.



A dairy cow's optimal milk production depends on successfully managing the transition to lactation. Resilient cows maximise their milk potential. Research by ILVO in Belgium shows a 3 kg daily production increase can cut methane emissions by up to 8.4%.



Traditionally, a 365-day calving interval ensures cows are ready for the next lactation as milk yield drops. In high-yield herds, cows may struggle with negative energy balance post-calving, hindering pregnancy. Pursuing shorter calving intervals, especially in high milk-yield scenarios, could harm farm economics and animal welfare. Extending the calving interval to 415 days is an alternative approach.



Functional longevity refers to cows avoiding culling due to factors other than low milk production. Increasing lactations per cow significantly impacts a dairy farm's Lifetime Daily Yield and environmental footprint. Research from ILVO in Belgium indicates that reducing culling rates by 5% and raising daily milk production by 3 kg cuts methane emissions by 11.7%. Effective transition management is crucial to prevent involuntary culling later in lactation and extend dairy cows' lifespan.

Applying both LifeStart and HealthyLife principles contributes to a 9% reduction in carbon footprint.

* Trouw Nutrition sought to assess the potential environmental implications of innovative feed strategies and health solutions for milk production, with the dual objectives of enhancing animal health and reducing environmental impact. An LCA model was developed following ISO standards (14040:2006, 14044:2006) and guidelines from IDF (2022), PEF Guide (2019), PEFCR of dairy products (EDA, 2018), PEFCR of animal feed (FEFAC, 2020) and related references.

The HealthyLife scenario utilised for the LCA model relies on the findings and meta-analysis of several published trials compared against the publication of the Dutch cooperative for cattle breeding CRV, where the technical figures of the Dutch dairy herd are published as a baseline for the Dutch dairy herd.



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