



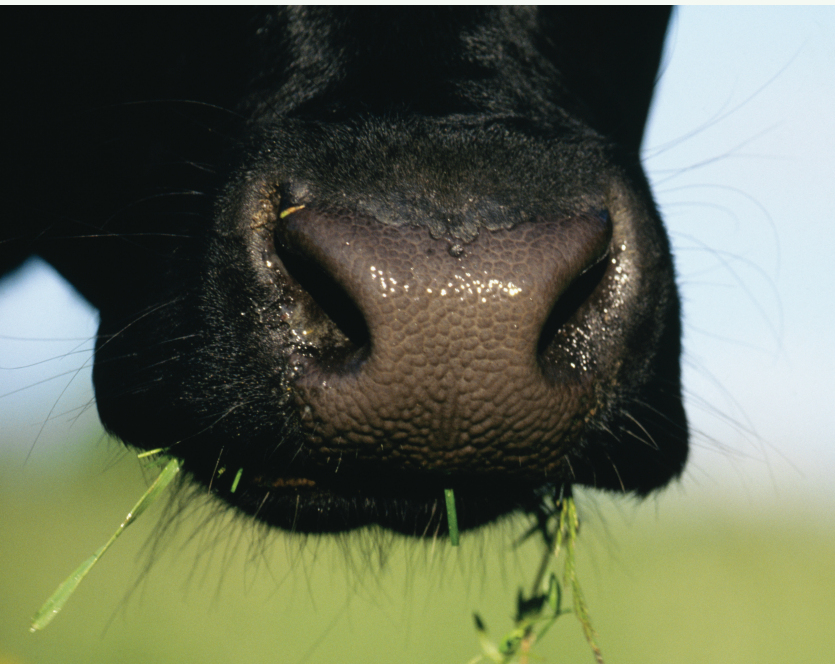
Ecofeed®

The largest evidence-based
Feed Conversion index in the world

Breeding cattle for the **future**



Genetics for Profitable Sustainability



Introduction: To meet the needs of a growing population and ensure a sustainable future, the livestock industry must work to produce more milk and meat using fewer resources. Improving feed efficiency is crucial, as feed represents the largest input cost on farms and directly impacts greenhouse gas emissions.

Solution: EcoFeed® is a genetic selection index that offers a lasting and cumulative solution to improve feed efficiency and reduce greenhouse gas emissions by creating cattle who produce milk and meat with less feed, less methane, and less water.

How it works: Just like humans, cattle inherit genes from their parents that influence not only their size and appearance but also their productivity, metabolism, and even health. For decades, farmers have leveraged these genetic differences to breed cattle with enhanced productivity, leading to dairy cows today producing over three times the milk they did in 1950. EcoFeed® is a genetic index that identifies differences in an animal's DNA that contribute to their feed efficiency and methane production. Being uncorrelated with other genetic traits, EcoFeed® enables farmers to improve feed efficiency and reduce greenhouse gas emissions while simultaneously enhancing key traits such as milk and meat production.



TSU tube containing DNA genetic material for genomic prediction

On-Farm Implementation:

Today, farmers evaluate a combination of genetic indices based on their breeding objectives and market demands to identify elite sires and dams that will pass on desirable traits to the next generation. EcoFeed® is available for STgenetics® sires and for females via DNA testing, enabling farmers to seamlessly incorporate it into their existing selection criteria.

Involving no additional costs or changes to standard farming practices, EcoFeed® is an accessible and cost-effective solution for farmers worldwide.

Economic and Environmental Impact: If farmers in North America used the top 1% of EcoFeed® sires to breed the top 35% of EcoFeed® dams, the next generation of dairy females could save an estimated \$3.5 billion in feed costs and cut CO₂e emissions by more than 23 million tons over their lifetime.

Conclusion: Given that genes are permanent and passed from one generation to the next, EcoFeed® provides a lasting and cumulative solution for farmers to enhance profitability while promoting sustainable milk and meat production. EcoFeed® genetics are good for you, good for cows, and good for the planet. EcoFeed® – sustainability is in our DNA.

The Ecofeed[®] impact

 **14** years of Research & Development

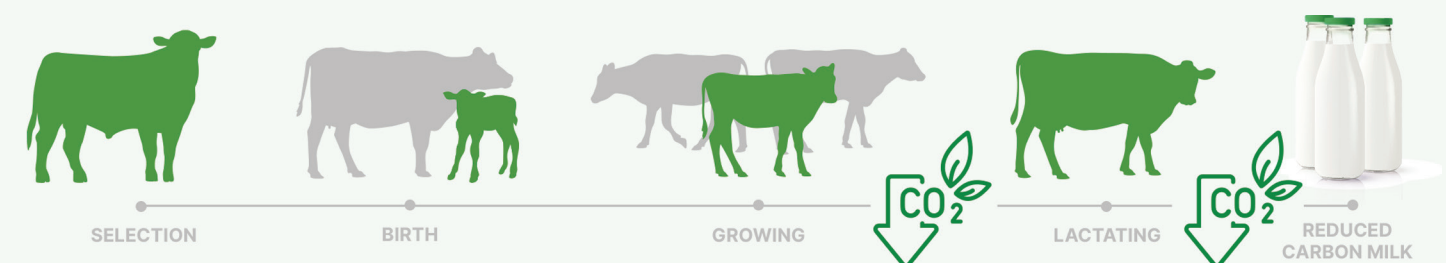
 **>4** million daily intake records

 **>284** thousand methane emission records

 **15%** less methane

 **15%** less feed










 **21%** less water



geneStream[™]
Genomics and Reproductive Technology Explained

stgen.com |      

STgenetics[®]

	Average Cow Today	Top EcoFeed [®] Cow Today (top 5%)	Top EcoFeed [®] Cow in 2030 (top 5%)
Gallons Milk	 3,337	 3,558	 3,593
Pounds feed per gallon	 9.46	 8.50	 7.80
Kg CO ₂ e per gallon of milk	 6.27	 5.63	 5.17
% reduction		10%	18%
M Tons enteric CO ₂ e reduced/year		1.4 million	2.4 million

The proof is in the science

Measure

Evaluate feed conversion and methane emissions of >10,000 cattle annually

Monitor

Environmental impact tracked and reported through DNA verification

Verify

Science Based, Peer Reviewed Validation

Reduce CO₂

Lower carbon meat and milk with EcoFeed[®] genetics

Peer reviewed articles: Khanal et al. (2023). Genomic evaluation of feed efficiency in US Holstein heifers. J. Dairy Sci. 106:6986-6994; Khanal et al. (2024). Genomic evaluation of residual feed intake in US Holstein cows: Insights into lifetime feed efficiency. Front. Genet. 15:1-9. Kebreab et al. (2021). Genetic Selection Through Ecofeed Index Reduces Carbon Footprint in Heifers. J. Anim. Sci. 99(Supplement 3):145. Kebreab et al. (2022). Genetic Selection Using Ecofeed Index Reduces Carbon Footprint in Lactating Dairy Cows. J. Anim. Sci. 100(Supplement 3):353. O'Reilly et al. (2024). Association of genomically enhanced residual feed intake with performance, feed efficiency, feeding behavior, gas flux, and nutrient digestibility in growing Holstein heifers. J. Anim. Sci.10.1093.

*Enteric CO₂e calculated according to IPCC 2019 guidelines. M Ton savings based on North American cow population. Enteric savings do not represent additional carbon savings expected from crop and manure production or non-genetic improvements such as animal welfare, energy use, or manure management. EcoFeed[®] – sustainability is in our DNA.