

10 Steps

Reducing the
carbon footprint of
Tasmanian dairy

2

Make every cow count



Supported by:



Your cows are your key asset for turning inputs into outputs.

It makes sense that a key goal for improving your herd should be to breed cows that:

- can most efficiently convert feed into production, and
- last for many seasons (i.e. get in-calf each year, have good conformation, health and longevity).

To perform to their genetic potential every animal must be managed well through their lives so:

- as young heifers they are grown to target weights through to first calving,
- as cows they achieve body condition score targets at each calving and through the season,
- animal health is proactively managed, and
- reproduction is well executed.

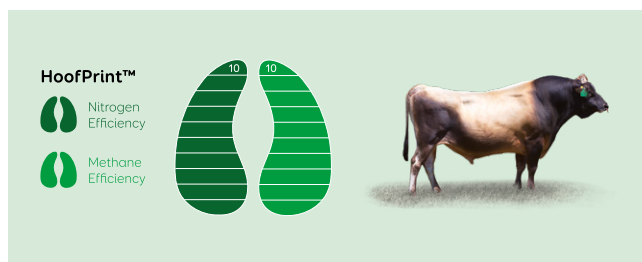
The factors that impact on cow performance can be best summed up as:



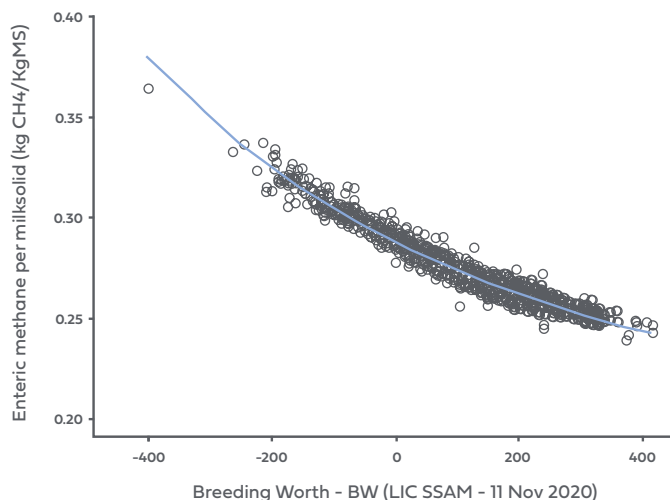
Genetics

NZ data shows that higher genetic merit animals as represented by Breeding Worth (BW), when performing to their genetic potential will have a lower enteric methane emission per kilogram of milk solid over their lifetime than lower BW animals.

LIC has developed the HoofPrint® index, which ranks AI sires on their daughters’ enteric methane emissions and urinary nitrogen excretion per kilogram milk solids over their entire lifetime.



Lifetime enteric methane per milk solid production related to BW





Methane

Methane relates to enteric methane belched from the cow and nitrogen relates to urinary nitrogen which leads to nitrous oxide emissions from the urine patch. These values have been calculated using a model based on the NZ agricultural greenhouse gas inventory model, including energy and partitioning models and adapted to use seven individual animal breeding values to calculate production, emissions and excretion totals. The index ranks our bulls out of 10, the higher the score – the more environmentally efficient they are.

By selecting high ranking HoofPrint® bulls and using them across high genetic merit cows, farmers will be able to increase their herd's genetic gain – resulting in highly productive and environmentally efficient cows.

To make the right decisions about cows in your herd it is important to have good quality production, breeding and liveweight data.

To maximize the rate of genetic gain in your herd you need to ensure you have good reproductive performance. By having a high 6-week-in-calf rate and low not-in-calf rate you will have the best opportunity to be more selective on which cows will be utilised for generating replacements.

- Don't keep replacements from your lowest genetic merit and performance animals.
 - mate your lowest 10-20% of the herd to easy calving beef.
- Use the highest genetic merit sires available, including their HoofPrint® rating.
- Consider mating your replacement heifers to AI to generate replacements, taking advantage of their higher genetic merit.
- Consider using premium-sexed semen over your highest genetic merit cows/heifers.

When making your breeding plan, ensure you will generate enough replacement calves born to still have some selection in the calf pen once the calves are born.

Environment

Every farm environment is different. Some farm characteristics are permanent like soils and climate; some are semi-permanent like the milking parlor, farm infrastructure, water rights and debt levels. Others may be more subject to change, like management decisions on stocking rate, use of resources like fertiliser and supplementary feed, milking frequency and labour policy, irrigation scheduling and animal husbandry practices.

Some key drivers of cow performance are consistent across all farms.

Replacements need to meet liveweight targets for heifer growth, calve down early and be managed well once in the herd. Matching feed supply and demand is central to ensuring cows are well fed through their lactation.

A solid mating plan with good staff training and systems will help ensure joining is successful.

Animal husbandry policies are important. Sick cows mean lost production days, poorer reproductive performance and body condition loss. Calves need good husbandry to meet their growth goals, and don't forget service bulls! Proactive health management prevent illness, and early identification and treatment of illness helps minimise production losses. A key component is ensuring all staff on farm are adequately trained to carry out their role in animal husbandry.

All these areas form part of the farm environment in which your cows live. Optimisation of that environment allows your cows to perform to their potential.





Action Points

1. Create a mating plan to ensure you are achieving optimum genetic gain in each generation of replacements.
2. Use high HoofPrint® rated sires in your breeding program.
3. Ensure you are achieving reproductive targets on farm.
4. Ensure young stock are reaching liveweight targets and cows are achieving body condition targets.
5. Have animal husbandry policies that focus on preventing lost production.
6. For more information refer to the Dairy Australia InCalf programme.



Supported by:



Contact

DairyTas Office
admin@dairytas.net.au
03 6432 2233

[www.dairyaustralia.com.au/
dairytas-10steps](http://www.dairyaustralia.com.au/dairytas-10steps)