

Innovate or procrastinate? Incentivising farmers to start their Greenhouse Gas Emissions journey early.

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Synlait is a young, pioneering company, that is shifting perceptions and driving value through new thinking. We combine expert farming with state-of-the-art processing and world-class quality systems, to produce a range of nutritional milk products for our global customers, that provide genuine benefits for human health and wellbeing. Our company was born disruptive. It is this spirit that has driven our success.

Synlait began large scale processing of dairy milk during the 2008/2009 dairy season, with a site in Dunsandel (Canterbury), and 60 supplier farms. The Dunsandel facility now processes milk from 215 farms in Canterbury. There are 65 Synlait supply farms in the Waikato region processing milk through the Pokeno facility, which started collection in the 2019/2020 season. The Dunsandel site has grown to be one of the largest integrated infant formula sites in the world.

Synlait is one of Australasia's largest B Corp™ certified companies – an achievement which resonates strongly with our company purpose *Doing Milk Differently For A Healthier World*.

Lead With Pride™

In 2013, Synlait's ISO accredited Lead With Pride™ (LWP) certification programme was established. This programme incentivises farmers to demonstrate best dairy farming practice through looking after the environment, milk quality, the health and welfare of animals and the people on the farm. The programme was the first certified farm environment plan and is one of two approved ISO accredited audit programmes recognised by Environment Canterbury. At the mid-point of the 2021-2022 dairy season Synlait had 185 certified LWP suppliers out of a total of 280 suppliers.

Each farm is independently audited annually to ensure that the standards of the LWP programme are being maintained on-farm.

Synlait's sustainability targets

In 2018, Synlait announced 10-year environmental sustainability targets, which included substantial targets for reductions of farm derived greenhouse gas (GHG) emissions, from a 2017/2018 baseline reporting period.

In FY21, Synlait decided to review and upgrade its climate targets to align them with the New Zealand Government's commitment to keep global warming to no more than 1.5° C above pre-industrial levels. Both its Scope 1 and 2 (off-farm) target and its Scope 3 on-farm target were approved by the Science Based Targets initiative (SBTi). The new on-farm target is:

- 30% reduction in total greenhouse gas emissions per kilogram of milk solids by 2028 from a 2020 baseline.

At the same time Synlait’s sustainability targets were released, an announcement was made that the incentive for LWP farmers would increase from \$0.06 kg/MS to \$0.20 kg/MS for LWP Gold Plus farmers, and \$0.12 kg/MS to \$0.25 kg/MS for LWP Gold Elite farmers. A portion of the new LWP incentive was dedicated to greenhouse gases on-farm. Farmers who completed a greenhouse gas management plan would obtain either \$0.03 kg/MS (for LWP Gold Plus farmers) or \$0.04 (for Gold Elite farmers).

At the start of the 2018/2019 dairy season Synlait had 60 LWP farmers, the increase in incentive payments for LWP attracted many more farmers to join the programme over the following year.

As shown in table 1 (below), the largest contributor to greenhouse gas emissions in the Synlait supply chain is derived from on-farm sources. For the company to move towards achieving the ambitious GHG reduction targets a plan had to be developed that brought on-farm GHG emissions into the thought processes of farmers.

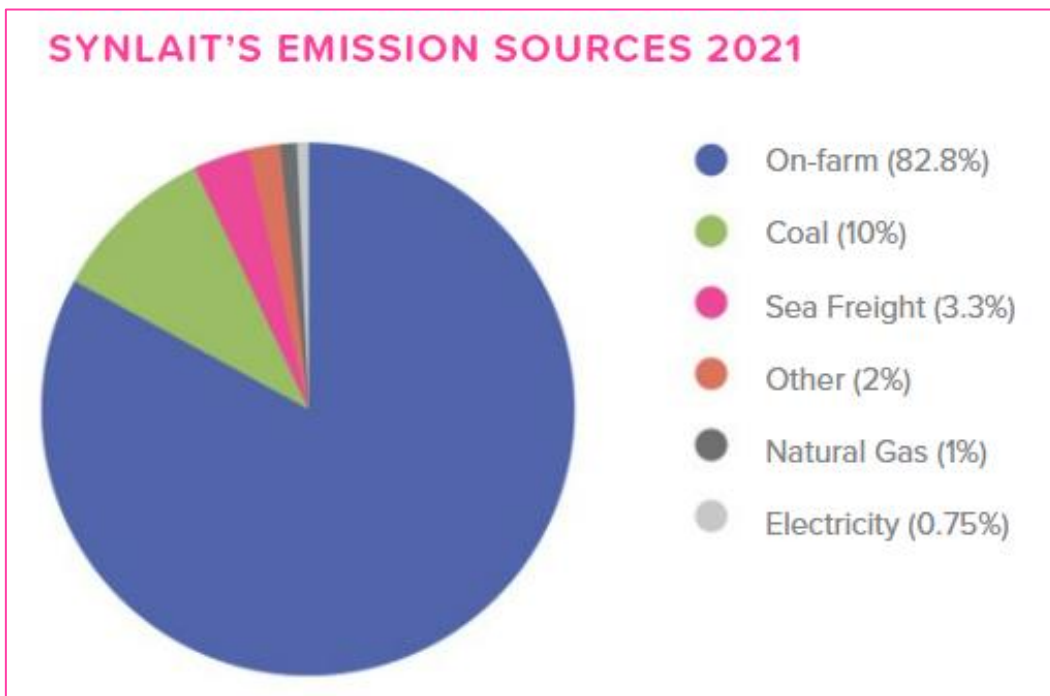


Table 1: Synlait greenhouse gas emission sources 2021

GHG education journey for farmers: 2018 to 2021

On-farm greenhouse gases were not completely new to most Synlait farmers, as they had been supplied their farm GHG emissions total via annual Overseer FM nutrient budgets since the 2016/2017 season. The 2018 introduction of a LWP incentive for GHGs was the next logical step. The objective was to start Synlait farmers on the GHG journey by enabling them to have a good base knowledge of GHG sources for their farm.

Synlait worked with industry stakeholders and GHG scientists to create its first GHG management plan, released early in the 2018-2019 dairy season. The GHG management plan was developed with several purposes in mind:

1. To educate farmers about the three main gases that are emitted on-farm (CH₄, CO₂ and N₂O).
2. To educate farmers on how different physical and farm management factors contribute to the emissions of these GHGs.
3. To educate farmers on how these GHG emissions could be mitigated on-farm.

Within the plan there were eight different GHG management areas:

- Fertiliser/nutrient management
- Soil management
- Irrigation management
- Effluent management
- Feed management
- Energy management
- Breeding
- Offsetting

Within each management area there were several direct mitigations or actions that could lead to GHG reductions over time. These actions/mitigations were based on scientific principles.

To accompany the plan a supporting document was created that detailed how implementing each action/mitigation had the potential to reduce on-farm GHG emissions. The potential for pollution swapping (implementing an action that offsets one GHG, but inadvertently may increase another GHG emission) was something that farmers had to be aware of. The GHG management plan highlighted action/mitigation areas that may cause this to happen. It was highly recommended that before a farmer implement any actions/mitigations that had this potential they seek independent advice.

Each farm on the LWP programme received a GHG management plan template to prepare for audit with help from Synlait's Milk Supply team.

\$0.03 kg/MS (equates to \$10,000 for the average sized supplier farm) of the LWP incentive was awarded for completion of the GHG management plan and the farmer being able to demonstrate an understanding of how GHGs are emitted on their farm.

The educational process was used for three seasons (2018-2021) and was successful in increasing farmer understanding of GHG sources, losses, and what steps could be taken to further mitigate GHG emissions on their farms. During this time, we encouraged farmers to focus on the GHG good management practices they can realistically achieve, not their emissions number. By implementing scientifically proven mitigation activities, emissions reductions should follow.

Time for a change: 2021/2022

From 2018 to 2021 the number of farmers on the LWP programme increased from 60 to more than 180. With around 60% of farmers now fully LWP certified it was time to change the way we approached GHG management. After successfully focusing on GHG education for three

years, the approach for the 2021/2022 season moved to management and mitigation of on-farm GHGs.

The purpose of the new approach was to recognise and reward farms that are early adopters and leaders in the GHG management field, and to incentivise those who can still do more on-farm to reduce GHG emissions. This approach was preferred to rewarding GHG reductions, because rewarding reductions against a base line tends to penalise early adopters and often leads to a focus on how emissions are measured, rather than taking action to reduce them.

As part of this focus change Synlait developed a new GHG management plan with a tiered incentive approach. The new management plan had 40 actions/mitigations with each mitigation/action assigned a numerical value based on GHG reduction potential.

The original Synlait (2018) GHG management plan gave every farmer \$0.03 kg/MS for completing the plan. The updated GHG management plan with its tiered incentive payment (\$0.00 - \$0.03 kg/MS) rewards certified LWP Synlait farmers for specified farm centric actions that have a cumulative impact on reducing their farm specific GHG emissions – the more actions/mitigations implemented on-farm the higher the potential incentive paid.

The tiered incentive payment thresholds are set at challenging but achievable levels for most farms. Every farm system is different, not every action/mitigation will suit every farming system. The intention is to fairly reward farmers for the contributions they are making towards mitigating GHG emissions on-farm. For a farmer to gain the \$0.03 kg/MS incentive a minimum of 74% of total available points is to be achieved.

Under each action/mitigation in the management plan there are three options for the farmer to choose, they are:

- Yes – action/mitigation is implemented.
- No – action is not implemented.
- To do – action will be implemented by 31 March.

As the farmer is working through the GHG management plan, the scores for each implemented action are added up to show the incentive achieved.

A LWP certified farm can have their annual audit at any time of the year. To maintain a level of fairness amongst all LWP certified farmers there is an option (to do) under each mitigation/action. This option allows the farmer time (up until 31 March of the current season) to implement an action/mitigation and submit proof of action/mitigation for reassessment and gain extra points towards their final incentive payment. Any audits completed after 31 March do not have this option.

The impact of having the ‘to do’ incentive for farms audited before 31 March

Giving farmers time to investigate and then implement GHG action/mitigations on-farm through using the ‘to do’ option led to a 100% increase in farms receiving \$0.03 incentive, compared to at the time of audit.

Farms audited pre-31 March:

- 63% of farms obtained \$0.02 (per kg/MS).
- 34% obtained \$0.03 (per kg/MS).

After submission of ‘to do’ actions for same audited farms – 31 March closing date:

- 30 % of farms maintained or moved to \$0.02 (per kg/MS).
- 70% of farms achieved \$0.03 (per kg/MS).

	Number of farms receiving incentive		Percentage of farms receiving incentive	
	\$ 0.02	\$ 0.03	\$ 0.02	\$ 0.03
Pre 31 March audit	81	44	63%	34%
Post 31 March ‘to do’ actions submitted	38	90	30%	70%

Table 2: LWP GHG incentive changes through impact of 'To do' action in GHG Management Plan

With Synlait offering continued support for farmers to develop an increased understanding and knowledge of GHGs, farmer buy-in and engagement in this area has increased dramatically since 2018.

Many farm suppliers now see the benefit in completing the GHG management plan, not for the incentives gained, but also looking at the bigger picture. Reductions in GHG emissions are often also intrinsically linked to improved efficiencies on-farm.

GHG reductions noted since inception of GHG management programme

From 2018-2021 measured on-farm greenhouse gas emission intensity dropped by 10% CO_{2eq} per kg/MS for Synlait farmer suppliers.

	FY18	FY 19	FY 20	FY 21	FY 20-21 evolution	FY 18-21 evolution
Total on-farm emissions (CO_{2eq} kg/MS)	11.92	11.41	11.25	10.73	- 5 %	- 10 %

Table 3: Synlait scope 3 on-farm GHG emissions intensity per kg/MS financial years 2018-2021

Where are reductions coming from

Some farms have been able to make large emissions reductions through implementation of on-farm good management practices, while others have not been able to make any reductions beyond where they were in 2018. Each farm emissions profile is slightly different, but there are several noticeable areas in which these reductions have been derived.

The main themes seen across farms were:

- Implementation of on-farm good management practices to align with LWP minimum requirements.
- Reducing N surplus – total N loss (kg/ha) has reduced by 23% over all farms since 2018.
- Slightly lower stocking rates on-farm.
- Farmers having a better understanding of their GHG emissions sources on-farm and making subtle changes to save money and improve efficiencies.

What's next?

Synlait has strong ambitions to remain a leader in the field of on-farm GHG management. The GHG management plan is a living document with the aim to keep farmers ahead of regulatory requirements and up to date with all new innovations in the GHG space.

The plan will be reviewed and updated annually to ensure that actions/mitigations within the plan are practical, realistic, and beneficial for farmers. New mitigations will be added as they are developed and proven, some mitigations will drop out as they become standard practice on-farm.

The percentage of points required within the plan to meet the different monetary incentive levels will be reviewed and if required adjusted annually to encourage innovation and drive reductions on-farm.

We will continue our connection with He Waka Eke Noa and industry partners through ensuring the plan remains fit for regulatory purposes.

We will also continue to align with our customer expectations in the field of GHG management.