

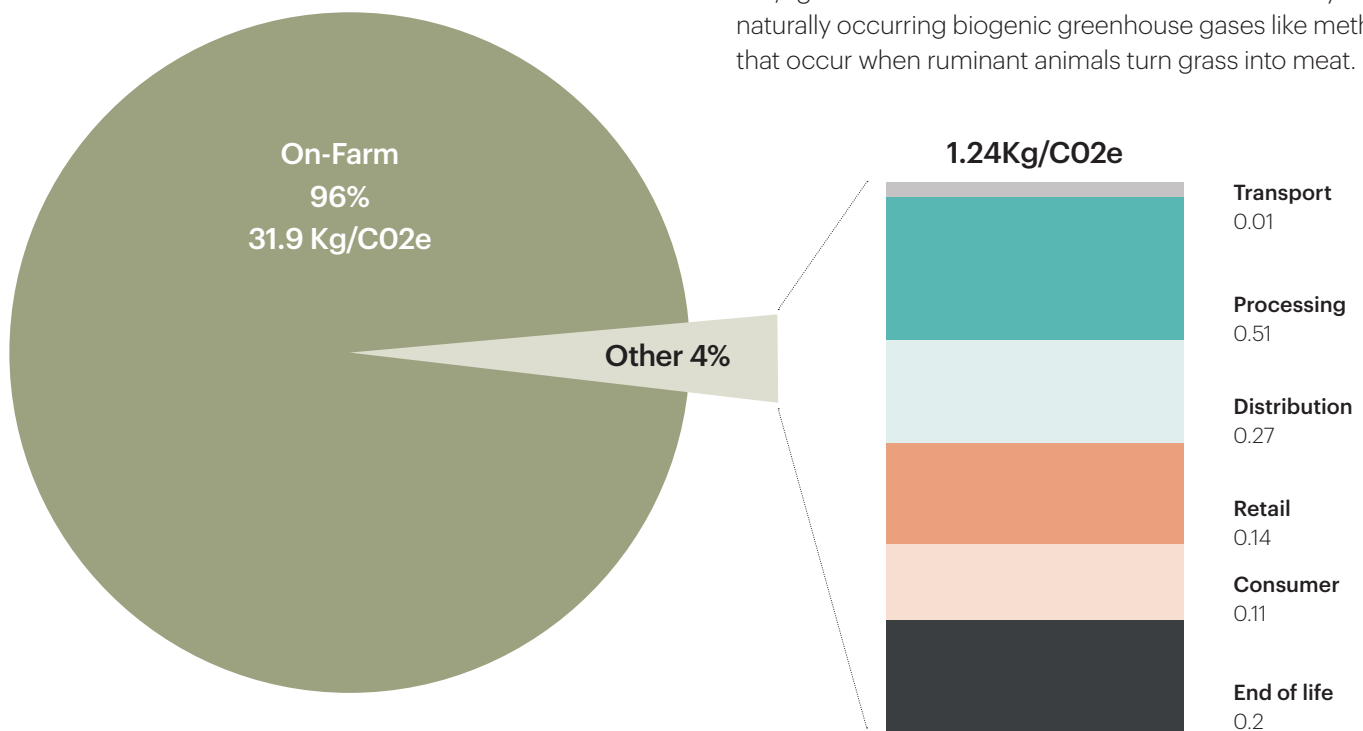
Silver Fern Farms Net Carbon Zero Beef

Over the past two years Silver Fern Farms has been proactively working with a group of 17 farmers from across the country, to better understand their own carbon footprint and the opportunities to optimise carbon stored on their farms.

Building on the information we have found in our pilot, and with a clear goal in mind of creating value from carbon, the next phase was establishing the foundations for Net Carbon Zero red meat. To create a Net Carbon Zero product Silver Fern Farms needed to either purchase external carbon credits or offset the emissions in the lifecycle of each pound/kilogram of meat sold.

Emissions

Producing meat creates emissions - our farming systems emit Greenhouse Gases such as carbon dioxide, methane, and nitrous dioxide. We know from the lifecycle analysis of our Angus beef programme that 96% of the emissions from a lb/kg of meat come from on farm. These are mostly due to naturally occurring biogenic greenhouse gases like methane that occur when ruminant animals turn grass into meat.



Sequestration

Woody vegetation sequesters carbon, which helps to “offset” greenhouse gas emissions. Our farming systems both emit and sequester, which is a unique self-contained solution (as opposed to buying credits from pine forests for example). Our carbon pilot of 17 farms showed that 14 out of 17 had a clear path to ‘carbon neutral’

What is ‘Net Carbon Zero’?

Our products are certified when emissions associated with each lb/kg of product sold are certified to be balanced with equivalent carbon sequestration occurring within the lifecycle of that product. In our case within the lifecycle means the sequestration must come from farms that supply the animals to the Angus beef programme.

Our product is branded ‘Net Carbon Zero’ as this better describes our approach, where total emissions are measured right from the birth of an animal through to the US Consumers plate, even including any emissions associated with the disposal of packaging.

$$\text{CARBON EMITTED} = \text{CARBON SEQUESTERED}$$



What counts for offsetting emissions?

There are up to 72 subclasses of woody vegetation on farm. Permanent Vegetation must occur on farms supplying animals to the programme and is subject to an agreement between Silver Fern Farms and the landowner. It is a mix of native and exotic vegetation. Sequestration occurring cannot be double counted.

What are removals

Removals include permanent woody vegetation occurring on our suppliers farms, in places like gulleys and riparian zones. There is a large number of these removals on our farms already which are serving good ecological and functional purposes (like stock shade and erosion control, biodiversity and riparian protection) and are now also being utilised to balance out the emissions associated with our products.

Certification Consumers Can Trust

We have labelling approval from the USDA on our Net Carbon Zero Claims. In New Zealand our Net Carbon Zero certification, is independently certified by Toitū Envirocare and is based on the British Standards institute measure called PAS2050, which also has equivalence to the International Standards Organisation ISO14067 product standard. To enable us to do this we measure all stages of product emissions from the birth of an animal right through to how a consumer disposes of packaging of the product. Using satellite technology and machine learning we then identify on-farm permanent vegetation that is absorbing the equivalent amount of Carbon Dioxide from the atmosphere. We then contract and purchase this carbon from farmers to account for all of the emissions associated with the meat produced within the program. This not only rewards our farmers for their strong environmental management practices, it also highlights the benefits of grass-fed beef from New Zealand.

How do we measure Removals?

We use satellite imagery and Artificial Intelligence to map and classify the vegetation on farm. The vegetation is then assigned a carbon value depending on its type, age, state and size. Our Farmers then sense check this mapping against their on-farm knowledge.

Our first Net Carbon Zero product is from our existing 100% Angus programme supply group. We've calculated the emissions associated with the Net Carbon Zero 100% Angus product sold in market, and we purchase the equivalent amount of Removals from our farmers who are registered to that programme. The emissions associated with the product are balanced by sequestration on farm, which meets the requirements for Toitū Net Carbon Zero certification.

Whole-of-Farm thinking

Whole-of-farm thinking is not just about offsetting emissions but creating farms environments that are better able to capture carbon and are more biodiverse. By developing a market based payment for sequestration occurring on our suppliers farms we are supporting and incentivizing our farmers to protect, restore and add to the amount of native bush and tree plantings. It is a way of respecting and caring for the land that reflects in the health and happiness of our animals. The result is care you can trust and taste.

Beef made better



**SILVER
FERN
FARMS**

100% MADE OF NEW ZEALAND

