

# SEAFEED

Reducing ~99% of methane emissions in ruminant livestock

284

million tonnes of methane are emitted from livestock each year

14.5

percent of global greenhouse gas emissions come from livestock

8-10

percent of all anthropogenic GHG emissions come from ruminants

## The Challenge

### Ruminant emissions are accelerating climate change

There are over 1.4 billion cattle in the world, each producing about 220 pounds of methane everyday. With methane being 84 times more potent than CO<sub>2</sub> over a 20-year span, there is an urgent need to drastically lower methane emissions within the agriculture sector. Due to their large population and potency of emissions, many studies even claim that cows are more damaging to our environment than cars.

## The Solution

### Using seaweed as a feed additive for ruminants

We propose a livestock additive created from a species of red algae called *Asparagopsis Taxiformis*. In a study by James Cook University, incorporating less than 2% of this seaweed into a ruminant's daily feed has the ability to reduce methane emissions by over 99%. Furthermore, these alterations have no irregular side effects in terms of taste or milk productive for both the livestock and humans.

**Our goal is to scale up the production of *Asparagopsis Taxiformis* to reduce methane emissions in ruminant livestock**

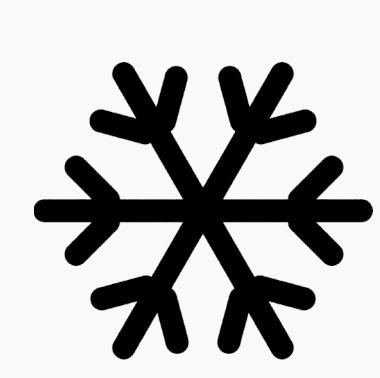
## The Process

### Cultivate



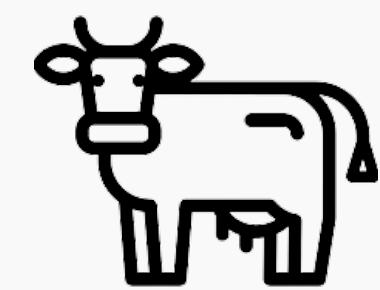
*Asparagopsis Taxiformis* tips are harvested and brought to an incubator, where they are cultured in sterile seawater at 20 degrees Celsius. Fronds of the red algae are then attached to polypropylene rope lines in the ocean where they will mature for 6-8 weeks.

### Refine



Matured AT seaweed is then cut by hand and loaded onto a boat. It is then transported into a building that will clean, freeze dry, powder, and package the seaweed into bags as a livestock additive.

### Deliver



*Asparagopsis Taxiformis* is finally transported to different farms containing ruminant livestock via trucks or shipping containers. Once the product is delivered, farmers can sprinkle this additive into the feed of their livestock for consumption.

### Our Product



*Asparagopsis Taxiformis* contains a chemical called bromoform. This colourless liquis inhibits methanogenesis, which is the process of forming methane in an animal's rumen.

Theoretically, if we established an 8,000 hectare farm, we can produce approximately 400,000 tonnes of seaweed. We could then implement 0.2% of our seaweed in a livestock's feed per day (which can reduce emissions by around 90%), feeding up to 34,514,599 cows for a year and reducing 3,099,801 tonnes of methane, with more opportunity to expand.



"If *Asparagopsis Taxiformis* was fed to all the world's cattle, it would have the environmental impact of taking every car off the road."

- Josh Goldman, Co-founder of Clean Harvest and Greener Grazing