

Coastline Consulting

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
Ashish Ganapathy	Senior	Accounting & Finance
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Robert Francis	Junior	Finance & Management

Advisor(s): Jeff Muton

Topic Title: Feeding the Future: A Catalyst for Greener Grass on the Other Side

Audience: Owners of Harris Ranch

Sustainable Development Goals

SDG #13: Climate Change: Take urgent action to combat climate change and its impacts

SDG #12: Responsible Consumption and Production: Ensure sustainable consumption and production patterns

Executive Summary

The United States is one of the top three global emitters of greenhouse gases (GHGs), with methane being the second most abundant GHG worldwide. Methane has over 28 times the heat-trapping potential of carbon dioxide, making it a significant contributor to climate change. In the U.S., agriculture accounts for up to 37% of total emissions, with a considerable portion stemming from livestock methane production. Additionally, methane oxidation contributes to ground-level ozone formation, exacerbating public health risks such as asthma and other respiratory disorders. Addressing methane emissions at their source is crucial for mitigating long-term environmental and health impacts.

Recent studies in agricultural science reveal that supplementing cattle feed with a small percentage of seaweed (approximately 0.06% of total feed) can reduce methane emissions from beef cattle by up to 82%. As consumer demand for sustainable products continues to rise, integrating this solution into cattle farming presents both environmental and economic benefits.

With approximately 1.8 million cattle in California alone, the potential for large-scale methane reduction is substantial. By adopting a seaweed-based feed supplement, Harris Ranch can position itself as a leader in sustainable beef production, reinforcing its commitment to environmental responsibility while maintaining long-term profitability. Leveraging carbon credit opportunities and expanding into premium, eco-conscious markets, Harris Ranch Beef Company can revolutionize sustainable cattle farming and set a new industry standard.