

Joint Innovation Project - 2024/25

Novel Compound Discovery in Newly Domesticated Alaskan Kelp

Lead Entity: Marine Biologics

Category:

Project Location: Kodiak, San Francisco, Roscoff, Vancouver

Project Start Date: August, 2024

Expected End Date: December, 2025

Award Amount: \$99,875

PROJECT OVERVIEW

Please provide an updated description of your project here using the following guidelines:

- *The problem to be solved (1-2 sentences)*

Novel species are being explored for cultivation across Alaska – Dragon, Split, and Bull Kelp – but little is known about their chemical components and potential markets.

- *Your proposed solution (1-3 sentences)*

MB, with support from local farmers in Kodiak (Alaska Ocean Farms, Alaska Sea Greens, and Spruce Island Farms), was provided with samples of the three novel kelps for sequential extraction and chemical characterization. The Kodiak Seafood and Marine Science Center (KSMSC) was used to prepare samples for shipping to laboratories for extraction/analysis. The objective is to identify market segments based on chemical compositions of easy to isolate fractions.

- *What you have accomplished/learned to date including challenges, successes, and any changes to your original proposal (4-5 sentences)*

To date, our major learnings came during a one-month on-site study at the KSMSC during which a straightforward sample process was developed for frozen raw biomass. The material was defrosted, shredded, dried, and physically characterized. This led to the development of a simple standard operating procedure that can be adopted by KSMSC for any future biomass sampling efforts. Unfortunately, the efforts to cultivate the three novel kelps at the three partner farms were largely unsuccessful. Supplemental biomass was secured from wild or other farm sources – no major changes to the experimental plan.

- *Next/final steps (1-3 sentences)*

Initial chemical analysis will continue through September. During Oct-Dec MB will develop extraction methods to fractionate seaweed and identify market segments based on chemical compositions for final reporting.

ADDITIONAL INFORMATION

- Do you anticipate any challenges in completing your current scope of work by your planned end date? Reporting may run into 2026, but the work activities will be largely complete
- Do you anticipate spending all of your awarded funds? Yes
- Do you have anything *additional* that you would like to share? Really enjoying the process – working at KSMSC was a great privilege as well as working with the amazing farmers across Alaska.

PHOTOS

Please upload 2-4 photos of the project here, or as attachments.