

# Joint Innovation Project - 2024/25

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## Reducing Impact of Heavy Metals in Seaweed to address Barriers of Growth .

Lead Entity: Four Corner Foods

Category: Innovations in Processing – Stabilization, Blanching, Pre-processing before Drying or Freezing, Product Development

Project Location: KSMSC, Kodiak, AK, Wildsource, Kodiak, AK

Project Start Date: August 01, 2024

Expected End Date: October 30, 2025

Award Amount: \$99,530.00

### PROJECT OVERVIEW

- *The problem to be solved:*
  - **How to reduce undesirable and food safety limitations of seaweed consumption .**  
A significant barrier to seaweed consumption is the amount of **allowable consumption limit per day** , that is defaulted by the presence of undesirable components like heavy metals (and even desirable components like Iodine).
- *Your proposed solution (13 sentences)*
  - A conscious choice in processing conditions allows for reduction and control of these components and thereby **result in increased consumption limits** , leading to increased sales and marketing opportunities.
  - We propose to blanch freshly harvested seaweed, with two different methods and investigate the performance of each method to **result in a reduced amount of undesirable heavy metal content.**
  - **Iodine**, is a desirable compound, but has limited allowance for daily consumption and hence we also will investigate iodine reduction opportunity, to **deliver a more suitable product for human consumption** and **greater amount of consumption per day** , to increase marketability of seaweed.
- *What you have accomplished/learned to date including challenges, successes, and any changes to your original proposal:*
  - We have conducted several experiments and investigations utilizing primarily Kombu (Saccharina Latissima) species and Wakame (Alaria Marginata) species and some Bull Kelp (Nereocystis Luetkeana) species.
  - Successfully established reduction in Heavy Metals and also in Iodine with the methods employed.
  - Successfully quantified the amount of reduction using the two methods – Hot water blanching and live Steam blanching.

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- Challenges;
    - Obtaining Seaweed to conduct trials – refusal from one farmer in Kodiak.
    - Some discrepancy in Heavy Metal analytical results – While overall trends of significant reduction was observed, some instances of results anomaly are also observed.
  - Any Changes to Original Project: No changes to Purpose, Objectives, Tasks, Project execution. Further trials scheduled in August of 2025 and completion by October 2025.
  - *Next/final steps:*
    - Conduct second round of trials with dehydration to establish best choice of processing.
    - Quantify consumption amounts that would comply with regulatory limitations – US FDA or CA prop 65.
    - Present findings and conclusions to date.
    - Issue Final report

## ADDITIONAL INFORMATION

- Do you anticipate any challenges in completing your current scope of work by your planned end date?
  - Still plan to complete all experiments by August 2024.
  - Will plan to issue final report including analysis and conclusions by Oct 2025.
- Do you anticipate spending all of your awarded funds?
  - Yes. Will have to monitor and adjust specially for laboratory analytical costs and supplies.
- Do you have anything *additional* that you would like to share?

## PHOTOS

