

Effects of Cooking on B12 Presence in Nori

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Research Question

Problem: How do different cooking methods influence the cobalamin value of nori?

Hypothesis: If a food item with a significant amount of B12 is cooked then it will lose a portion of its vitamin content because procedures such as cooking, boiling, and other forms of heating remove water-soluble vitamins.

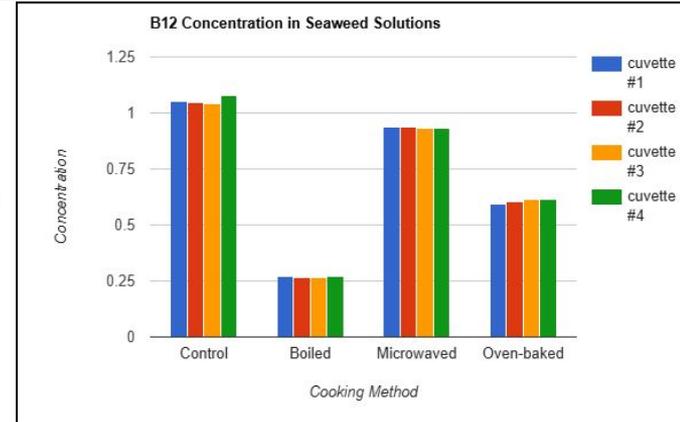
Introduction: Nori, an edible dried seaweed made from algae, is one of the rare non-animal foods with cobalamin, making it a very valuable source of nutrition to individuals with dietary restrictions (*Huang et al.*). The purpose of this research is to investigate the optimal preparation of nori for its b12 value.

Methodology

- Take four sheets of Ocean's Halo sushi nori. Perform three procedures, while leaving one alone (boil, microwave, oven bake, control). Store prepared samples in separate containers.
- Grind each nori sample (separately) and mix with 250mL of water to form a strained solution.
- Siphon specimens to fill four UV-Vis compatible cuvettes each.
- Fill one cuvette with water. Place this in the first slot. Run this as the baseline.
- Fill each sequential slot with your sample cuvettes. Run a Multiple Wavelength scan set to 360 nm.

Data Analysis and Results

All B12 concentrations among each cuvette of every sample.



Conclusions

The results present that the highest concentration of the vitamin cobalamin was present in the uncooked nori sample solution. The second highest concentration was presented by the microwaved sample, and the third by the oven-baked sample. The smallest concentration of cobalamin was detected in the boiled sample, approximately $\frac{1}{4}$ of that seen in the control sample. Out of the samples that underwent any of the processes, the microwaved sample retained the highest value of cobalamin.