

Advancing liquid kelp biostimulant production: Refinement, field and market testing

- Supporting three Kachemak Bay & Lower Cook Inlet kelp farms
- 2025 processed ~10,000 lbs sugar kelp for biostimulant;
- 2026 will process ~30,000 lbs
- Biostimulant production via anaerobic fermentation - a low-capital and low-energy method for rural Alaska
- Refining 2024 fermentation and processing methods for efficiency
- 2025 field trials at UAF Experimental Farm (Fairbanks) and Twitter Creek Farm with Homer Soil and Water Conservation District (Homer)
- Marketing underway
- Challenges:
 - Limited market
 - Limited testing opportunities + farmers reluctant to integrate new products without substantial test data



Initial results - 2025

Fermentation/production trials:

- **Variables:** Amount *Lactobacillus*, amt sugar, sugar type
- **Lab analysis** - all 32 trial batches
- **Root growth assay** - 3 trial batches
 - # roots and mass = or > commercial comparables
 - More concentrated dosage rates not effective



Field trials:

- **Potatoes & beets, 2 locations, randomized block design**
- **Results**
 - Sig + response in beet leaf area and weight
 - Observed + response in potato leaf (not measured)
 - Beet and potato root response not sig &/or variable
- **Factors**
 - Lacked dosage results from root assays at field season start. Over-dosed.
 - Mirrored plot design at 2 farms resulted in beet crowding at UAF
 - Potential viral contamination in potato plot soils at UAF
 - Soil quality is very high at both sites, not ideal for testing full potential of biostimulant



What's next in Spring 2026?

- **Partnerships with Alaska farmers - field data and test marketing**
 - State of Alaska Plant Materials Center in Palmer - field trials, potatoes and grains
 - Calypso Farm and Ecology Center, Fairbanks - “farmer” greenhouse and field trials tomatoes and leafy greens
 - Lancashire Farm, Soldotna - “farmer” field trials - crops TBD
- **Anticipating processing ~30,000 pounds**
 - Scaling up will provide more accurate numbers for economic assessment of product feasibility
- **Product is available for purchase online and in stores!***



*Learn more at:

<https://www.kachemakkelp.com/sea-to-sprout>

- FAQ page
- White papers on field trials available