

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.



Introduction	2
What is Co-Packing?	2
Is Co-Packing Right for You?	3
You might want to work with a co-packer if...	3
You might NOT want to work with a co-packer if...	3
Special Considerations for Kelp	4
Stabilization vs. Value-Added Processing	4
Food Safety Regulations	5
Toxicity	7
Pre-Work: Product Development	7
Write it Down	8
Gather and Incorporate Feedback	8
Scale Up Your Recipe	8
Understand Food Safety Requirements	9
Pilot Your Product	9
Finding a Co-Packer	10
Overall Capabilities	10
Minimum Order Quantity	11
Fee Structure	11
Location	12
Customer Feedback	12
Equipment & Certifications	12
Ingredient Sourcing	13
Quality, Safety, and Values	13
Other Considerations	13

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Labels	13
Pricing Your Product	14
Insurance	15
Scheduling	16
Storage & Distribution	17
Other Paths to Production	17
Producing at Home	17
Renting a Commercial Kitchen	18
References	18

Introduction

New England has seen rapid expansion of the number of people interested in and actively growing kelp. However a lack of independent processors and buyers presents a challenge to the financial sustainability of this industry. In 2020, GreenWave, a 501c3 nonprofit, received a USDA FMPP grant to support *Strengthening Market Connections for Kelp Farmers in Southern New England*.

One component of this project was developing the capacity of a very small-scale co-packing facility, Farm Fresh Rhode Island's Harvest Kitchen, to develop and manufacture shelf-stable, value-added food products with fresh sugar kelp as a primary ingredient. As a result of this work, four shelf-stable products were developed, each with a scheduled process validated by Cornell University's Food Venture Center. However, it became clear that more general guidance around working with co-packers was also needed, to support farmers as they grow beyond the start-up phase and the capabilities of Harvest Kitchen.

The goal of this document is to serve as entry-level guidance for ocean farmers who wish to remain focused on the cultivation side of their business (rather than processing), but still seek to capture some of the profit margin and seasonal extension benefits of value-added food products. While much of the guidance is applicable to *any* farmer on land or sea, we have highlighted kelp-specific guidance in **green** and plan to update this document periodically as

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

more information becomes available. We welcome any and all feedback, as well as suggestions for external resources that might be helpful to link out to.

Please note that this document is intended to serve as a primer, and is *not* a comprehensive summary of everything you need to consider when bringing a value-added kelp product to market. As the owner and operator of the farm, *you* are solely and legally responsible for identifying, evaluating, and addressing strategic, financial and food safety risks. We hope that this document will be a useful tool on your journey.

What is Co-Packing?

A co-packer is a manufacturing company that operates on a contract basis to turn raw ingredients into finished value-added products for clients. Clients are commonly independent consumer packaged goods (CPG) companies, but they also can be the farmers who produced the raw ingredients and are seeking to extend their season through product stabilization, make use of surplus or B-grade product, or increase the retail value of their crops.

Co-packers have certified commercial kitchens, professional-grade equipment, a team of trained employees, and deep expertise on food manufacturing and safety that allow them to produce large volumes of food products efficiently and cost-effectively.

Is Co-Packing Right for You?

You might want to work with a co-packer if...

- **Demand for your products has increased rapidly, and you're struggling to keep up.** Co-packers use large-scale equipment and are designed for efficient workflows. If you have some big purchase orders on the horizon, a co-packer may be able to create more of your product in less time, for less money.
- **You've got your food safety processes buttoned up.** Because co-packers are FDA licensed food processing facilities, they will require proper food safety controls and documentation for any ingredients used in manufacturing a value-added product. This includes source controls (ensuring that your kelp is grown in certified waters and

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

contaminant testing has been completed) as well as temperature controls (maintaining a temperature below 40°F). For more information on hazards associated with seaweed refer to Connecticut Sea Grant's [Seaweed Hazards Guide](#).

- **You don't love the actual work of food production.** As a small business owner, it often works well to spend your time and energy on the things you love and do well, and leave the rest to others. 'Outsourcing' your production to a co-packer may free you up to focus on sales, marketing, or another aspect of your business where you can bring more value.
- **You don't have access to a commercial kitchen space.** While some states have cottage laws that allow food production in private residences, in almost all cases a food safety certified location is required once you reach a certain scale of production. If you're not able to find a local commercial kitchen that is affordable, meets regulatory requirements, has the correct equipment, and is available for use at times that work for you, a co-packer may be a good option.
- **You can't afford to build out your own facility right now.** If your product requires specialized manufacturing equipment or expertise, it might be very expensive to outfit a commercial kitchen to fit your needs. A co-packer allows you to scale your production and generate cash flow with less up-front capital; it can also help you work out your process kinks such that you are more prepared when/if you do eventually decide to invest in vertical integration.

You might NOT want to work with a co-packer if...

- **You're still operating at a small scale.** By design, a co-packer is set up to do large batches of product. All co-packers have minimum order quantities that must be met to even contemplate doing a production run, but the minimum is just that — the bare minimum. You won't be able to realize many of the benefits of working with a co-packer until you're able consistently place orders above that minimum.
- **The value-added product you want to make is extremely unique.** Co-packers achieve lower costs through efficiencies, and efficiencies are achieved through repeatability. If your product is innovative to the point that nothing like it exists on the market, you may not be able to find an existing facility that has the machinery or expertise you need. In

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

that case, you would be better off fundraising to build your own manufacturing capabilities.

Note that just because your ingredient input (kelp) is unique does *not* mean that the value-added end product must be. For example, given how many different meat-based jerky products exist today, odds are good that you would be able to find a co-packer to use *the same exact process* on kelp. Get creative!

- **You don't have cash in the bank.** Working with a co-packer can save money in the long run, but there are up-front costs that can be expensive. Early stage test runs often result in sub-par product, which you'll still need to pay for but might not be able to sell to your customers. And then there's the fact that your production must be done in large batches. You'll need to have enough cash to cover additional ingredients, packaging, and co-packer costs in advance of receiving revenue from that production run.
- **You're uncomfortable with direct communication and holding others accountable.** Co-packers make lots of different products for lots of different customers, and their primary interest is efficiency. While a co-packer can often make your product more quickly and cheaply than you could be able to in your own facility, it is unreasonable to expect that they will have the same level of attention to detail when it comes to flavor profile or other important characteristics. In other words, you can't just hand over your recipe and expect everything to be perfect from there on out – you will need to provide very explicit process instructions, test your product early and often, and maintain frequent and direct communication about what's working well and what isn't.

Special Considerations for Kelp

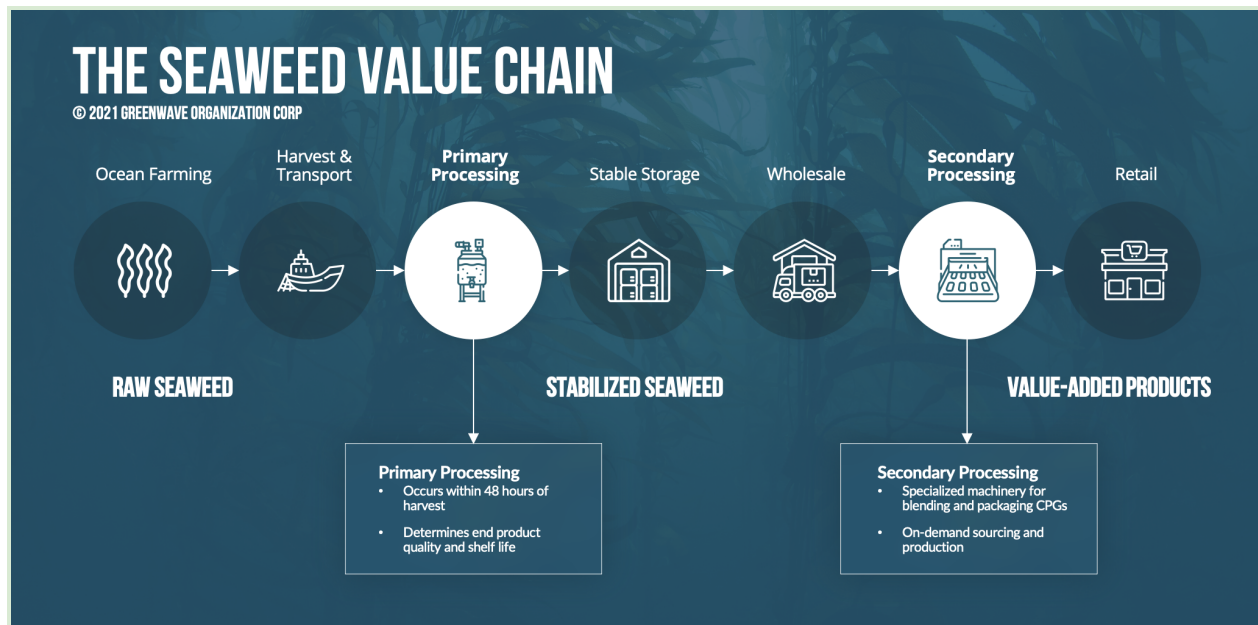
Stabilization vs. Value-Added Processing

Depending on what you intend to do with your kelp, you may need to work with multiple co-packers: one for stabilization of your raw crop, and another for transforming the stable kelp into a final value-added product.

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Below is a diagram of the seaweed value chain. While a single company may own or operate multiple steps in this chain, the steps along the way are the same for almost any kelp product intended for retail sale:



Because the harvest season is short and kelp is highly perishable, in the vast majority of cases your crop will need to be stabilized through a primary processing stage — ideally within 48 hours of harvest — and stored in that stable form until it is ready to be used for value-added production.

For an introduction to how various forms of processing affect the properties of sugar kelp, we recommend starting with the following articles:

- [Impact of Blanching, Freezing, and Fermentation on Physicochemical, Microbial, and Sensory Quality of Sugar Kelp \(*Saccharina latissima*\)](#) (2021)
- [Fermentation of sugar kelp \(*Saccharina latissima*\)—effects on sensory properties, and content of minerals and metals](#) (2019)

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Food Safety Regulations

Under current federal guidance, whole, raw, unprocessed kelp sold in an unsealed bag or box is considered a “raw agricultural commodity” (RAC). This term refers to any food in its raw or natural state, and its regulation *in this form only* is overseen by the USDA rather than the FDA. This allows seaweed to be cultivated for any number of products outside of food uses, such as bio-materials and soil amendments.

That said, if seaweed is intended for human consumption, its handling must comply with certain parts of the [Food Safety Modernization Act \(FSMA\)](#). FSMA was signed into law in 2011, is the first comprehensive legislation that attempts to *prevent* foodborne illness outbreaks across the entire food system, rather than controlling outbreaks after they occur.

FSMA is divided into six major sections:

1. Preventive Controls for Human Food
2. Foreign Supplier Verification
3. Sanitary Transportation
4. Intentional Adulteration
5. Preventive Controls for Animal Food
6. Produce Safety

Which of these sections apply to domestically cultivated seaweed? Foreign Supplier Verification and Intentional Adulteration are not rules you generally need to worry about as a small-scale US-based kelp farmer. And according to the [Produce Safety Rule](#) itself, “the term “produce” includes fruits (the harvestable or harvested part of a plant developed from a flower) and vegetables (harvested part of any plant or fungus), which by definition does not include algae.”

So, of these six FSMA sections, the only ones that pertain to seaweed are Sanitary Transportation, Preventive Controls for Human Food (PCHF), and Preventive Controls for Animal Food (for end products like livestock rations or dog food). Depending on what kind of value-added products you intend to make, and pieces of the value chain you are going to be

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

retaining control of, you will need to familiarize yourself with the requirements of the applicable FSMA rules. Because there is no other seaweed-specific federal guidance at this time, you will need to collaborate with co-packers, state and local regulators to understand any additional requirements or concerns they may have.

It's important to note that while PCHF applies to most facilities that hold, process, or pack human food, there are exemptions based on the volume of product you sell and/or who you sell it to. There are also certain RAC harvest and post-harvest activities that may be exempt from PCHF because they are considered 'farm' activities instead of processing 'facility' activities. For land-based crops, these include things like:

- Packing and holding
- Harvesting activities such as removing stems, trimming of outer leaves, and cooling
- Sorting, culling, and grading
- Drying without additional processing (e.g. raisins)
- Packaging and labeling without any additional processing

Unfortunately, while 'farm' activities have been [at least somewhat defined](#) for many land-based crops, they have yet to be defined for seaweed. This is a gray area that we will be watching closely over the coming months and years, and will provide updated information when it is available.

[The Sea Grant Law Center](#) is actively working with state agencies and industry experts to develop additional guidance. For information on general food safety regulations relevant to co-packing, see the Cornell Food Venture Center's [Regulatory Resources](#) webpage.

Toxicity

Kelp is an exceptional source of many macro- and micro-nutrients critical to human health. However, the same properties that allow kelp to efficiently extract trace nutrients from the water can lead to the absorption of compounds that may be harmful to human health *at high concentrations*. Two of particular concern are:

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

1. **Iodine.** The FDA has set forth [maximum daily amounts of kelp additives](#) people should consume to avoid ingesting too much iodine. For most people, the daily amount is 225 micrograms. For infants, the maximum amount is 45 micrograms, while the limit for pregnant or lactating people is 300 micrograms.
2. **Heavy Metals.** Kelp absorbs *everything* in the water, and that includes contaminants such as lead, cadmium, and arsenic, if they are present. Absorption levels vary depending on local factors such as temperature, salinity, pH, and nearby human activities, but the majority of seaweed products on the market today likely contain traces of these metals.

Because of these concerns, seaweed products — particularly dried formats and processes without a blanching step — should be tested *at least annually* to ensure that levels are well under acceptable levels. The article below may be helpful for farmers and co-packers to evaluate toxicity risk and develop processes that mitigate that risk:

- [Saccharina latissima Cultivated in Northern Norway: Reduction of Potentially Toxic Elements during Processing in Relation to Cultivation Depth](#) (2021)

Pre-Work: Product Development

It's a co-packer's job to manufacture your product to your specifications. It's your job, as the business owner, to develop those specifications to the best of your ability *before* approaching a co-packer. Below are some steps for approaching that process.

1. Write it Down

It makes sense to begin with recipes you love, and maybe even know by heart — but until it's written down it won't do you any good as a product concept. Dial in your instructions until it comes out the same every time. This means getting extremely specific about measurements ([weight rather than volume](#)) and processes.

For kelp in particular, make sure you're extremely clear about how the raw ingredient should be handled post-harvest, as this can have an impact on its water content and weight. For example, after your kelp is rinsed in fresh water, you may want to consider a

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

dewatering step (like a spin, drip-dry, or press) to ensure a minimal amount of surface water remains on the kelp at the time of weighing.

2. Gather and Incorporate Feedback

Once your recipe is foolproof, start providing samples of your product to family and friends and collect feedback on flavor, texture, and appearance. Modify your product based on the feedback, and repeat.

Gradually expand your circle. Farmers markets and specialty stores can be a great venue to demonstrate products and hear directly from prospective customers what they think about your recipe. If you're having trouble figuring out how to incorporate feedback, it might make sense to hire a chef for help achieving your desired end product.

At some point you might also choose to pay for a wider audience to provide more rigorous feedback on your product through sensory evaluation testing. While there are private companies that offer this service, land grant universities often have food innovation labs with similar offerings at more competitive prices. Two options include Penn State University's [Sensory Evaluation Services](#) and Oregon State University's [Sensory & Consumer Testing](#) lab.

3. Scale Up Your Recipe

When you have a product that you like, it's time to figure out how to produce it at higher volumes. A good start-up volume for a liquid product is 5-10 gallons; for a solid product, consider 15-25 pounds.⁵ When you do this, you may find that the ratios of certain ingredients need to be modified, or that processes that make sense at a small scale simply don't translate to larger batches.

4. Define Food Safe Processes

This would also be a good time to get familiar with the regulatory and food safety issues relevant to your product by consulting a *process authority*. A process authority is a food safety expert who can perform a complete evaluation of how your product is made, including all the steps of ingredient sourcing, preparation, and packaging, to ensure that the final product is a consistent quality and will not harm the end consumer.⁹ In addition

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

to the peace of mind a process review can provide for you as the business owner, certain products (shelf-stable low-acid and [acidified foods](#)) are *required by law* to be evaluated by a process authority. A complete list of Food Process Authorities by state can be found [here](#).

The document that results from a process review is called a *scheduled process*. Among other things, a scheduled process specifies the pH and other critical factors — such as heat processing, container type, ingredients, and preservatives — that must be controlled to assure the manufacture of safe acidified foods. Scheduled processes must be followed during each and every production run of the food, and critical factors must be monitored by an individual who has successfully completed appropriate food safety training.¹

It may take several attempts to achieve a scaled-up product comparable to the original that follows all of the required food safety regulations, and you will need to budget time and money for each recipe test and scheduled process validation. The cost of scheduled process validation at the Cornell Food Venture Center was \$150 per product as of September 2021, and the turnaround time was 7-8 weeks. Turnaround time can be expedited for an additional fee.

You should review the scheduled process for each product periodically to determine if changes are necessary or have crept into your process due to consumer demand, ingredient problems or changes in processing equipment. These changes must be filed as an amendment to an existing scheduled process. If the changes are significant, you may need a new scheduled process.⁵

5. Pilot Your Product

Once you have a product that is delicious, scaled up, and food safe, it's time to put it to the test using methods, materials, and equipment as close as possible to what will actually be used for the production runs. This will help reduce the likelihood that you'll need to majorly re-work your recipe or process after engaging a co-packer.

To run a pilot, you'll need to either [rent a commercial kitchen](#) or use a pilot plant, such as the one at the [Cornell Food Venture Center](#) or [Michigan State's Food Processing Innovation Center](#). In addition to verifying that your recipe is giving you the desired taste

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

and texture, you may also want to use the results of your pilot runs to test for shelf stability and nutritional profile.

If you've made it this far, congratulations! You are now ready to find a co-packer.

Finding a Co-Packer

Not all co-packers are created equal, and choosing the wrong co-packer can have disastrous impacts to your brand and your bottom line. Just like when hiring a new employee, you need to commit to doing a thorough search and vetting your prospective partner.

Start by asking around your network for referrals. If there's an existing product on the market that you love, you may be able to track down the co-packer that produced it based on the information on the packaging. That said, many co-packers can't disclose clients due to non-compete and confidentiality agreements¹⁰, so they may not be able to confirm that they do, in fact, make that amazing product.

You can also check industry websites. Cornell Food Venture Center has a list of commercial [Kitchens & Co-Packers](#) by state, as does [Pick Your Own](#). Websites like [PartnerSlate](#) can help match you with the right co-packer, or you can [request a quote](#) from The Association for Contract Manufacturers and Packagers as a starting point. Consulting companies like [JPG Resources](#) can also help you do a co-packer search, in addition to providing support on product concepts and formulation.

Once you have a short list, you'll want to arrange for introductory phone calls as well as an in-person visit to their facilities, and reference checks. Some factors to consider when selecting a co-packer include:

Overall Capabilities

What aspects of production do you need help with? You might simply need a co-packer for manufacturing and packaging, or you might need an end-to-end solution, from sourcing ingredients to storing the final product and shipping it to customers. Before you start reaching out to co-packers, get clear about what aspects of the value chain you need help with. For kelp

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

in particular, consider how you will be transporting your harvest and what kind of infrastructure will be required to safely unload and store it – both off your boat and at the processing plant.

If you're seeking a co-packer to stabilize your raw kelp, consider seeking out co-packers whose normal customers are 'off season' around the time of your harvest. For example, lobster facilities, summer-fall fruit and vegetable processors, and grain driers all have very specific times of year when they are extremely busy, and then sit empty or at a low utilization for the remainder of the year.

Minimum Order Quantity

The smallest production run a co-packer will accept is called the minimum order quantity (MOQ), and it's important to make sure that these align with both your farm yield and sales projections. These numbers are often based on what will allow the co-packer to keep their machinery fully utilized, minimizing the down time that is often required in between different customers for sanitation and traceability reasons. In the case of stabilizing raw kelp, a MOQ is usually expressed in the minimum volume (wet lbs) of kelp that a co-packer will accept per day or per season.

In the case of manufacturing value-added products, the MOQ usually refers to a number of finished value-added product units. If the MOQ is too high, you'll pay a lot of money for inventory that doesn't move, and in extreme cases might even go bad. If the MOQ is too low, you'll add to your operational complexity with the need to re-order frequently, and could end up disappointing customers if your products are often out of stock. On the upside, co-packers may be able to provide discounts for large value-added order volumes, which can be a game changer for your company's financials. Having a good understanding of where those volume thresholds lie will help you plan your sales and growth strategy.

Fee Structure

Co-packer fee structures come in many forms, but in general they will cover their costs plus a margin that varies based on the complexity and uniqueness of your raw materials, production process, and packaging.¹¹

Three fee structures you may encounter include:

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

- **Day Rates** — A fee for a full workday, which allows the production team to produce as many units as possible within the hours of operation.
- **Per Unit Rates** — A fee per unit produced or processed, regardless of how long it takes.
- **Hourly Rates** — A fee per hour of labor required to do the production run, charged in addition to the cost of materials. Usually only available at very small production facilities or for pilot runs.

Make sure to ask whether there are any additional charges that may be layered on top of the base rates, and how you will be notified of changes or additions. You should also make sure to understand payment terms, or how long you have to pay your bill after it has been issued.

Location

While the whole point of a co-packer is that you don't need to be there for your production runs, their location is still important. If you are planning on having your wet kelp stabilized by a co-packer, in most cases you will be responsible for getting it there. The further away your co-packer is from your farm, the more time and energy you will need to spend transporting your kelp, and the more money you will need to spend on labor, vehicle rentals, mechanical refrigeration, and gas.

If you're making a value-added product with a recipe you've developed yourself, we strongly recommend traveling to the co-packer to be with them for the first few runs. Consider whether this can be done in a day trip, or whether you'll need to budget for plane fare and hotel stays.

Customer Feedback

Ask to talk to other clients of the co-packer. Ask about timeliness of production runs, about the professionalism of administrative functions like billing, and above all, about communication. Is the client clear about who they can contact at the co-packer if they have a question or issue? How responsive are they? Are they open to receiving feedback and doing something about it? Have there ever been any issues? If so, what were they and how were they resolved?

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Equipment & Certifications

Because kelp is an unusual ingredient, you'll need to make sure that your co-packer has the proper equipment and processes to handle it. While it is still too early to recommend specific equipment as a best practice, most applications will require at least one thorough wash step, a sanitation or kill step, size reduction, and dewatering. We will add more guidance to this document as it becomes available.

If your co-packer does not have proper equipment already, you may have to purchase the equipment for them, and train them on how to use it. Similarly, find out what packaging options are available and whether they fit the vision for your end product; different packaging options require different equipment, and materials are not always interchangeable. If your brand or customers require any certifications, you'll also want to make sure that the co-packer has those or is willing and able to obtain them before your first production run.

Ingredient Sourcing

Unless your product is entirely made of kelp, you will need to think about how additional ingredients will be sourced. Most co-packers have existing relationships – and occasionally discounted pricing – with ingredient vendors, but you'll need to make sure that those ingredients meet your quality and format needs. If you bring in your own unique ingredients, you may need to pay an additional fee for the co-packer to store it for you.

Because your co-packer is responsible for ensuring the food safety of all ingredients it uses, they may require safety data sheets or records of safe handling for any and all ingredients, including your kelp!

Quality, Safety, and Values

In addition to ensuring that the nuts and bolts of production capabilities are what you need, it's important to remember that this is a strategic partnership – the health and standards of your co-packer are about to become inextricably enmeshed with yours.

Do your due diligence to understand your prospective co-packer's track record of quality and safety. Have they had any recalls or OSHA violations? What are their methods of quality control?

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Are they a good member of their local community? What are their core values as a company?
Can you speak with one of their employees, to hear their perspective on the company and management from the inside?

Other Considerations

Labels

Labels are more than just a way to convey product information – they communicate your brand to your customers when you can't physically be there.

Once you've decided on a packaging format with your co-packer, you will need to design a label that is compatible with that packaging. Check your label very carefully, both digitally and in a physical sample, before sending it off to a printer for a large run. If you are in the early stages of product development, you may want to stick to smaller runs of labels printed at home or at a local office supply store, in case you change the recipe or the name based on customer feedback. You will need to send your label for review by state and federal agencies for final approval prior to manufacturing your first commercial batch.⁵

At a minimum, your label will need to include:

- **Company name** and **physical address**
- **Common name** of the food product
- **Net weight** of the product
- **Ingredients**, listed in order of predominance
- **Allergen statement.** Since bio-fouling is not completely preventable or removable, seaweed should be labeled with a shellfish allergen warning.

Other components you may want to include:

- **Shelf life, storage information** (e.g. refrigerate after opening), and/or **safe handling instructions** (e.g. cook before eating)

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

- **Marketing or health claims.**
- **Nutrition label.** This is not required by law unless you meet one of the following criteria:
 - Nutrient claims (e.g., low fat, gluten free)
 - Your business has more than \$50,000 in food sales AND more than \$500,000 of total sales
 - Your business has more than 10 full-time employees or sales of more than 100,000 units of productHowever, having a nutrition label can make your product seem more legitimate. Two companies that provide affordable nutritional analysis include [Menu Smart](#) and [ReciPal](#).
- **UPC barcode.** These can be purchased through [GS1](#) for an annual fee based on the number of products and gross sales. A bar code isn't necessary for direct-to-consumer sales, but many retail stores won't consider your product without one.⁵
- **Prop 65 warning.** The state of California requires that companies give consumers a "clear and reasonable warning" when their products contain chemicals known to cause cancer, birth defects, or reproductive harm. Because of the toxicity concerns around heavy metals, if you plan on selling seaweed products into California you will need to include this label.

Pricing Your Product

Once you've dialed in your product with your co-packer, you need to figure out the price you will charge your customers. To start, add up all of the costs of production — this is your cost of goods (COGs). A good place to start is to set wholesale price at approximately 3x your COGs, and your end customer price at 2x your wholesale price.³ This will ensure that there is sufficient margin to cover other costs associated with distributing and marketing your product, and the general administration of your business.

If, however, when you compare the resulting numbers against competition and the price sensitivity of your target customer. If your price per unit is too high, you may need to go back to the drawing board to figure out how to reduce your costs. Options may include:

- Decreasing the unit size
- Modifying your production process to require less labor

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

- Sourcing less expensive ingredients or packaging

Below are some existing kelp-based CPG companies to check out when pricing your products:

[12 Tides](#)

[AKUA](#)

[Atlantic Sea Farms](#)

[Barnacle Foods](#)

[Blue Dot Kitchen](#)

[Blue Evolution](#)

[Kove Ocean Foods](#)

[Sea Forest](#)

[Seagreen](#)

[SeaMade](#)

[Springtide Seaweed](#)

Insurance

Regardless of whether you are self-manufacturing or using a co-packer, you need to have insurance. In addition to protecting your personal assets, insurance is required by many shared-use commercial kitchens, pilot plants, and distributors.⁵ When working with a co-packer, although many risks are out of your control, you can be held responsible for damages resulting from mishandling and other errors at any step in the process from farm to table.⁵

To obtain insurance you will need to work with an agent or broker. Similar to creating a short list of co-packers, start with referrals from other food business owners you trust. Remember, your broker is on your side. Don't misrepresent or downplay any risks associated with your product — if you do, it could mean that a claim will be denied in the future.

Make sure you have the following types of insurance:

- **General Liability** — Protection, including legal defense, from claims against you and your company alleging bodily injury or property damage to others because of your activities.
- **Product Liability** — Protection against claims resulting from food-borne illness or injury. Some amount of product liability insurance is usually included in a general liability policy, but you should double check to make sure the limits are appropriate for your business and buy additional coverage if needed. Pay particular attention to how the policy treats product recalls and related expenses. The use of a co-packer does not eliminate the need for product liability insurance, but it can reduce the amount of coverage your business needs to carry.⁷

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

- **Property** – Even if you don't have a manufacturing facility, property coverage can include ingredients and finished product inventory, packaging materials, processing equipment, computer equipment and data, sales samples, and property in transit.
- **Auto Liability** – Even if your business doesn't own any company vehicles, if your business will be transporting ingredients or finished product to and from the co-packing facility, consider *hired and non-owned* auto liability insurance. This covers employees using personal vehicles for company purposes, as well as rented vehicles.⁵

If you have employees that are not partners in the business, workers compensation and disability insurance are required by law.³

Scheduling

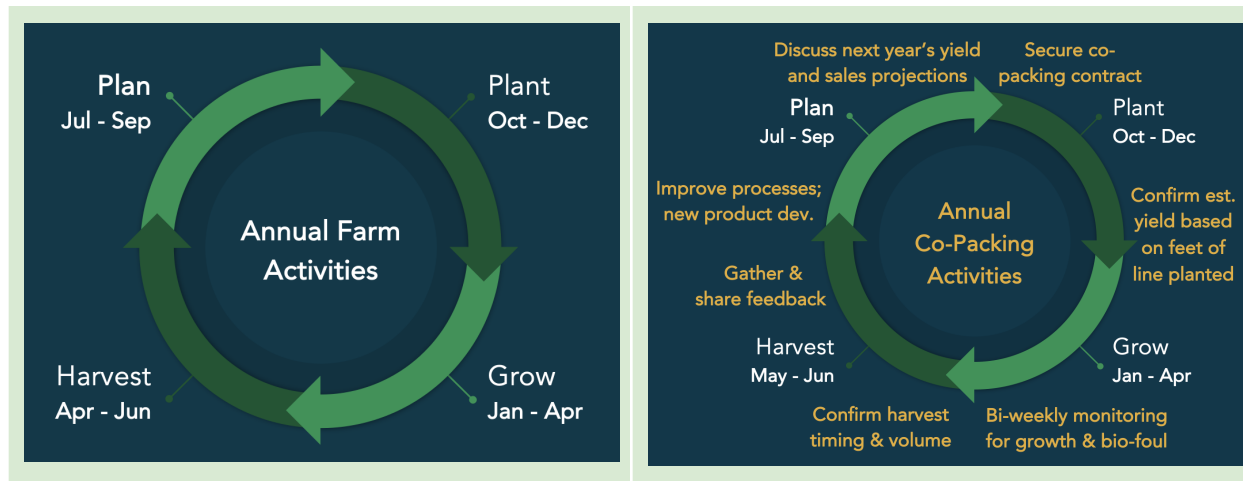
When exactly your production can happen is a delicate balancing act between your needs and those of your co-packer. Depending on what else your co-packer normally processes, their ability to process your kelp may be limited to certain months or times of day. Make sure that their availability aligns with your needs, and discuss in advance different timing scenarios and what will happen if there is a scheduling conflict.

If you're using a co-packer for the stabilization of your raw kelp, you will benefit from as much advance planning as possible. You must figure out who will be processing (and buying!) your kelp before you plant it. Do not plant a large volume of kelp and assume that the pieces will simply fall into place over the course of the season. Due to the extremely limited processing capacity and the lengthy process of familiarizing a new co-packer to kelp, you should plan on conducting your initial outreach 1-2 seasons before you actually need a co-packer.

Once you have a co-packer, you should still plan on communicating frequently throughout the season. Our suggestions for seasonal conversations are below:

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.



If you are using a co-packer for value-added that use stabilized kelp as an input, make sure you understand how much lead time is needed to schedule a production run, and whether there are any times of year (e.g. the winter holidays) when there are scheduling bottlenecks.

Storage & Distribution

After your product has been manufactured, you will need to figure out where the inventory can be stored until it is ready to be shipped to the customer. While some co-packers have this capability, many do not. Consider whether you have existing space that could be repurposed for product storage, keeping in mind that you may need to make modifications to ensure it is the right temperature and free of pests.

When you are first starting out, your distribution will likely need to be high-touch and low-risk: your car, the mail, a farmer's market or a local independent specialty retailer. This is what's known as direct-to-store-distribution (DSD). Once you've gained traction, you can begin to expand both your production *and* distribution simultaneously.

Other Paths to Production

If you've determined that a co-packer isn't the right fit for you right now, there are a few other options to consider.

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

Producing at Home

If you are making value-added products at a very small scale, you may be able to produce your recipe at home and sell it at farmer's markets. Rules and regulations vary by state.

PickYourOwn.org has compiled a [list of cottage law requirements by state](#).¹²

Renting a Commercial Kitchen

Shared commercial kitchens, sometimes called "commissary kitchens," are facilities where multiple businesses can utilize the same space to prepare, package, and store their food — all using professional equipment in a food-safe environment. Most commercial kitchens charge by the hour, with additional fees for storage of ingredients and finished product.

Another option is to approach an existing food business that is closed on certain days or times when you might be able to use their kitchen for production. In addition to restaurants, caterers, and food retailers, consider approaching churches, VFW posts, and event spaces.

For more information on renting a commercial kitchen, check out [this guide from Amped Kitchens](#), or search for a licensed commercial kitchen near you on [The Kitchen Door](#).

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

References

- 1 "Acid & Acidified Foods." *Cornell College of Agriculture and Life Sciences*, <https://cals.cornell.edu/cornell-agritech/partners-institutes/cornell-food-venture-center/acid-acidified-foods>. Accessed 5 Nov. 2021.
- 3 "Preserving the Harvest - A Value Added Processing Resource List." *NY Small Scale Food Processors Association*, http://www.nyssfpa.com/pdf/preserving_the_harvest.pdf. Accessed 5 Nov. 2021.
- 5 "14 Mistakes to Avoid With a Food Co-Packer." *Amped Kitchens*, <https://www.ampedkitchens.com/resources/2021/1/7/food-co-packer-mistakes-to-avoid>. Accessed 5 Nov. 2021.
- 7 "Consider a Co-Packer: A Risk Management Tool". *Mississippi State University Extension Service*, 2009, <https://extension.msstate.edu/sites/default/files/publications/publications/p2565.pdf>
- 8 "My Food Product: Do I Need Nutrition Facts On My Labels?" *RecipePal*, <https://www.recipal.com/blogs/1-my-food-product-do-i-need-nutrition-facts-on-my-labels>. Accessed 5 Nov. 2021.
- 9 "How to Submit a Commercial Food Product for Process Review." *New Mexico State University*. https://aces.nmsu.edu/pubs/_e/E325/welcome.html. Accessed 5 Nov. 2021.
- 10 "Co-Packer Confidence: What You Need to Know About Finding and Selecting a Contract Manufacturer." *Specialty Food Association*, <https://www.specialtyfood.com/news/article/co-packer-confidence-what-you-need-know-about-finding-and-selecting-contract-manufacturer/>. Accessed 5 Nov. 2021.
- 11 "Food Co-Packer vs Commercial Kitchen Costs." *Amped Kitchens*, 19 Jan. 2021, <https://www.ampedkitchens.com/resources/2021/1/19/food-co-packer-vs-commercial-kitchen-costs-for-small-businesses>. Accessed 5 Nov. 2021.
- 12 Lenhardt, Erin. "How to Start a Food Business: You've Got a Recipe. Now What?" *RealFoodMBA*, 17 Jan. 2017, <https://realfoodmba.com/how-to-start-food-business/>.
- 16 Janasie, Catherine and Nichols, Amanda. "Regulation of Seaweed as a Food Source" *Sea Grant Law Center*, 27 Mar. 2019, <http://nsglc.olemiss.edu/Advisory/pdfs/seaweedregulation.pdf>

Co-Packing 101: Guidance for Kelp Farmers

Originally published November 5, 2021 as part of USDA FMPP Grant #AM200100XXXXG185
Last updated November 5, 2021. Contact sam@greenwave.org with questions or feedback.

This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/)