

MOFGA Certification Services, LLC.

Guidelines for Organic Sea Vegetables

General Guidelines:

MOFGA Certification Services, LLC certifies both cultured and wild crafted sea vegetables harvested from Maine's coastal waters based on the relevant crop sections of the USDA-NOP rule as described below. **We do not certify sea vegetables grown in recirculating systems.**

Definitions:

Sea vegetable crop - Refers to the entire life history of a marine macroalga, or any part of a species of marine macroalgae, intended to be marketed as an agricultural product, fed to humans or livestock, or used in terrestrial cropping systems to manage nutrients and soil fertility. Colloquially referred to as "seaweed."

Kelp gametophytes - microscopic haploid stages in species belonging to *Laminariales* (colloquially referred to as "kelp").

Kelp sporophytes - The commercially harvested stage of the kelp life history, diploid, and usually large. The sporophyte germinates from the fertilized egg (zygote) that is retained on the microscopic female gametophyte.

Propagule - A spore or zygote produced by either the diploid sporophyte or haploid gametophyte. For our purposes, propagules are analogous to seeds. Propagules germinate into germlings or sporelings, which are initially microscopic. Generally referred to as the biological material used to grow the crop in "cultivated" situations.

NOP 205.202 Land requirements - How we apply NOP 205.202 to Sea Vegetable Cultivation is as follows: Organic sea vegetables must be cultured or wild crafted from defined ocean areas with waters of high ecological quality. Growing areas or beds must not be located near known sources of radioactive, chemical, or bacteriological contamination.

The following buffers apply to both cultured and wild crafted sea vegetables:

- Twenty (20) miles from any nuclear facility,
- Three (3) miles from any commercial boat building facility,
- Three (3) miles from any industrial wastewater discharge area,
- Three (3) miles from any city or town sewage discharge,
- Three (3) miles from any major harbor or thoroughfare.
- Three-quarter ($\frac{3}{4}$) mile from a small harbor entry. We define a small harbor as having moorings for up to 20 boats.
- Three-quarter ($\frac{3}{4}$) mile from a minor wastewater treatment facility (these are denoted on DEP maps)
- One-quarter ($\frac{1}{4}$) mile from any overboard discharge area or special circumstance (i.e. fish farm, small boat builder, etc.)

Note: A bed's location relative to prevailing winds and currents may make the above distances more or less critical. Doubts should be settled by tissue testing for suspected contaminants.

NOP 205.203 Soil Fertility and crop nutrient management practice standard - Fertility and crop nutrients allowed under NOP 205.103 and NOP 205.601 may be used only during the time sporophytes

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are being cultured in indoor facilities and only at levels necessary for healthy plant growth. Fertility and crop nutrient applications are prohibited in outdoor sea vegetables growing areas. MCS will work with producers on a case-by-case basis to verify compliance.

NOP 205.204 Seed and planting stock standard - Certified organic propagules must be used unless not commercially available in the form, quality or quantity needed. You must document your attempts to source organic propagules and this documentation must be available for verification at inspection or upon request. Conventionally raised male and female gametophytes must be transferred to pure seawater or an approved growth medium prior to fertilization and production of juvenile sporophytes. Producers using uncertified spools for organic production are required to have the spool supplier complete the *Verification of Sea Vegetable Propagule Status* form.

Propagules may be cultured indoors until they have grown to approximately 10mm in size. Growth significantly beyond 10mm in size before transfer to sea may result in the propagules being categorized differently from seeds (for example, as seedlings or planting stock, based on the observed maturity of the propagules) and may therefore be subject to different regulations. This determination is made at the discretion of MCS, based on information gathered during the onsite inspection of a nursery facility.

Juvenile seaweed should be collected from the wild on a regular basis (respecting the buffer zones above) to supplement culture stock and maintain a diverse gene pool.

NOP 205.205 Crop Rotation Practice Standard – not applicable.

NOP 205.206 Crop pest, weed and disease management standard – The producer must use management practices to prevent epiphytes, diseases, and nonindigenous (“invasive”) algae and invertebrates. Management practices include cultural, mechanical and physical controls. If management practices fail, substances on the National List NOP 205.601 may be used. Bio-fouling shall be removed by mechanical means and disposed of appropriately or, if necessary, by substances allowed under NOP 205.605.

NOP 205.207 – Wild-crop harvesting practice standard.

Harvesting shall be from designated areas that have had no prohibited substances, as set forth in NOP 205.105, applied for one growing cycle immediately preceding the harvest of the sea vegetables. Sea vegetables shall be harvested in a sustainable manner that is not destructive to the environment and will sustain the growth and production of the sea vegetables. Sea vegetables harvesting should follow the “Harvester’s Field Guide to Maine Seaweeds” of the Maine Seaweed Council.

NOP 205.272 Commingling and contact with prohibited substances practice standard

The producer must implement measures to prevent the commingling of organic and non-organic products and contact of organic products with prohibited substances. Organic integrity of sea vegetables will be maintained from fertilization thru cultured growing of sporophytes, deployment in ocean, harvesting, transporting, processing and storing product.

NOP 205.103 – Record keeping by certified operations. A Sea Vegetable operation must maintain records demonstrating compliance with the organic standards, including but not necessarily limited to documentation concerning the production, harvesting, handling and sales of cultured and wild crafted sea vegetables.

If you are drying and packaging or otherwise handling/processing the sea vegetables you will need to complete our Organic Handling Plan.