NPOP-3.8.- Organic Seaweed, Aquatic plants and Greenhouse Crop Production.

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3.8.1 General

- Organic seaweed, aquatic plants (including algae), and greenhouse crops are considered crop production activities and must generally comply with the standard crop production rules, unless specific exceptions are outlined.

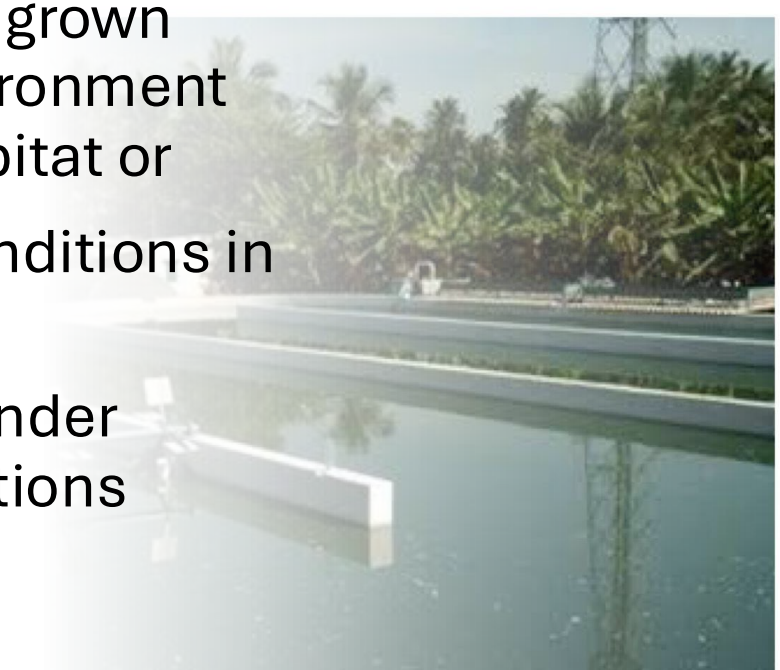
3.8.1.1 Organic Seaweed

- **Organic seaweed production encompasses harvesting wild seaweed and its naturally growing parts, as well as cultivating seaweed in coastal regions.**

- **This seaweed is intended for human or livestock consumption, or as raw material for food or feed processing.**

3.8.1.2 Organic Aquatic Plants

- Organic aquatic plants include macro and micro green plants.
- They include algae grown under aquatic environment in open natural habitat or
- -under artificial conditions in ponds or
- -tanks in open or under green house conditions



3.8.1.3 Green House crops

- General agricultural and horticultural crops
- Cultivated under greenhouse conditions
- Permanent in-ground soil or containers with plant/soil-based substrate
- Connected with soil
- Excludes nursery plants (which can be in containers with plant-based growing medium)

3.8.2. Organic Management Plan

Organic Management Plan:

- Submitted during farm/site registration with the Certification Body (CB).
- Organic management plan verified by the CB during inspection.
- Updated annually by the operator.
- Should be appropriate and sustainable for the production unit.
- Operators must inform CB "on a real-time basis" of any changes.

3.8.3 Specific requirements for Seaweeds

3.8.3.1 Collection from wild

. **Wild Seaweed Collection Requirements**:

- Must comply with general requirements under Regulation 3.1.12 (as applicable to the sea ecosystem).
- **Collection Area**:

- Far from human habitation and activity.
- Free from external contamination sources.
- Of sound ecological quality.
- Suitable for human health.

- **Collection Practices**:

- Must not harm the long-term sustainability of the natural habitat.
- Must not negatively impact the maintenance of the seaweed species.

3.8.3.2. Cultivation in sea and inland tanks.....1

Seaweed Cultivation Rules:

- Can be done in coastal areas (natural conditions) or inland tanks (specific purpose).
- **Cultivation Area**:
- Free from external contamination/ At a distance from human habitation/ Of sound ecological quality/ Suitable for human health.
- **Practices**:
- Sustainable methods for natural conditions at all stages (juvenile collection to harvest).
- **Seeding**:
- Use indoor-grown culture stocks.
- Supplement with wild juvenile seaweed if organic seeds are unavailable or to enhance genetic diversity.

Seedlings tied to bamboo frame and floated for 45 days in sea water.

Harvested seaweed brought to shore for cleaning and drying. Extracted sample is seen in glass tube.

3.8.3.2. Cultivation in sea and inland tanks..2 **Seaweed Cultivation Rules (Inputs & Practices):**

- **Natural Coastal Cultivation**: No fertilizers or growth-enhancing inputs allowed.
- **Tank Cultivation/Juvenile Raising:** Use untreated coastal marine water/ Tanks must have natural soil bottom/ Complete cemented or artificial tanks without soil contact are prohibited.
- **Inland Tank Conditions**: Inputs authorized under Annex -3(1) and Annex -3(2) may be allowed by the Certification Body.
- **Prohibited Inputs**: Synthetic fertilizers, pesticides, hormones, GMOs, and their products are prohibited.
- **Tank Sanitation & Hygiene**: Inputs allowed under Annex -3(9) may be authorized by the Certification Body, ensuring washings are not drained to the sea.

3.8.3.2. Cultivation in sea and inland tanks…3

- **Organic Conversion Period & Unit Separation**:

- **Seacoast Cultivation**: Organic certification after 6 months from the first CB inspection.
- **Inland Tanks**: Organic certification after 24 months from starting production after the first CB inspection.
- **Inland Tanks (No Prior Cultivation):** Conversion period can be reduced to 12 months after the first CB inspection, if demonstrated to CB.
- **Organic/Non-Organic Separation:** Must have separate facilities (space/time), equipment, storage, processing, and drying.
- **Prohibited Input Tanks:** Cannot be used for organic seaweed unless the full conversion period has passed.

CSMCRI, Bhavnagar have provided technology to many operators in India for sea based seaweed farming .

3.8.4 Aquatic plants including algae..1

- Aquatic plant cultivation is **crop production**; all applicable crop production rules apply.
- Conversion period: 6 months or one production cycle (whichever is longer).

i. Cultivation in artificial tanks without soil/organic substrate meeting standards does not qualify as organic.

ii. Organic and non-organic production must be in separate facilities with distinct equipment, storage, processing, and drying. Tanks with prohibited inputs require the full conversion period before organic use.

iii. Water must be potable, and soil (if used) must be free of contamination (including heavy metals).

iv. Synthetic chemicals/prohibited substances for sterilization are disallowed (except those specifically permitted).

v. Mother culture/seeding material must be organic. If unavailable, non-organic material can be used without chemical treatment/contamination.

3.8.4 Aquatic plants including algae….2

vi. **No GMO** seeds allowed.

vii. **Weed control**: Use physical or biological methods.

viii. **Prohibited inputs**: No chemical fertilizers (including trace elements), pesticides, or hormones.

ix. **Mineral fertilizers**: Allowed in their natural composition, following specified practices.

x. **Pest management**: Use physical and biological practices; no harmful synthetic chemicals or plant extracts.

xi. **Approved inputs**: Specific substances permitted with certification body approval.

xii. **Processing**: Must comply with section 3.5 of the rules.

3.8.5 Green House Crop Production

- **Greenhouse Crop Production**: Partially controlled environment. Must meet general organic standards (section 3.1).

  i. Design & surroundings should promote environmental benefits & resource efficiency (including water reuse).

  ii. Hydroponic & aeroponic systems are NOT certifiable under these standards due to lack of soil ecology.

3.8.5 Green House Crop Production....2

Greenhouse Crop Production:

iii. No parallel or split production of organic and conventional crops within the same greenhouse. If both are grown, they must be separate with buffers and cleaned equipment.

iv. During non-cropping periods, implement cover crops or green manure for soil health.

v. Plant growth media (e.g., coconut fiber)/ permitted substances as per Annex3-(1)/ those which were evaluated and found fit as per Annexure-3(3) of NPOP standards are allowed.

3.8.5. Green House Crop Production….3

vi. Media must contact or mix with soil and be incorporated/recycled.

vii. Containers should be non-contaminating, of plant origin, and ideally reusable (after ensuring they are phytosanitary).

viii. Sterilization of growing containers for disease management is allowed using steam, heat, physical means, or approved products (Annex -3(9)).

3.8.5. Green House Crop Production…..4

ix. Fertility management must follow standard organic crop production guidelines.

x. Plant a variety of crops each season for good rotation and diversity.

xi. Use intercropping and flowering plants to attract beneficial insects for pest control.

xii. Heating and lighting should be efficient, minimize environmental impact, and ideally use renewable energy.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