

Organic Seaweed, Aquatic Plants and Green House Crop Production

1. General

Organic seaweed, aquatic plants (including algae) and green house crop production being crop production activity, needs to comply the overall requirements, unless otherwise described under these rules as exception, of crop production rules prescribed under Appendix 1 of these rules.

Organic seaweed

Organic seaweed production includes collection of wild seaweeds and parts thereof growing naturally in the sea and cultivated in the coastal areas for use as food for human or livestock consumption or for use as raw material for processing of food or feed.

Organic aquatic plants

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

Green House crops

Green house crops includes general agricultural and horticultural crops cultivated under green house conditions in permanent in-ground soil systems or in containers filled with plant and soil based growing substrate connected with soil, except nursery plants which can be grown in containers in plant based growing medium.

2. Organic Management Plan

During the registration of the farm or production site/ unit with the Accredited Certification Body (ACB), the operator has to submit an organic management plan, which will be verified by the ACB during inspection. The organic management plan shall be updated annually.

3. Specific requirements for Seaweeds

3.1 Collection from wild – The collection of wild seaweeds and parts thereof shall comply with the overall requirements specified under Clause 11 of Appendix 1 as applicable under sea ecosystem. In addition the wild sea weed collection shall also be subject to following:

- i. The collection area shall be far away from human habitation and human activity and free from any external contamination source.

- ii. The collection area shall be of sound ecological quality and not declared unsuitable from human health point of view.
- iii. The collection shall not affect the long term sustainability of the natural habitat or the maintenance of the species growing in the area.

3.2 Cultivation in sea and inland tanks – The cultivation of sea weeds can be taken up in coastal areas under natural conditions or under inland tanks with specific purpose. Following specific rule shall be followed in sea weed cultivation:

- i. Coastal area where sea weed cultivation is done must be free from any external contamination source and at a distance from human habitat.
- ii. The cultivation area shall be of sound ecological quality and not declared unsuitable from human health point of view.
- iii. Sustainable practices leading to natural conditions be used in all stages of production starting from collection of juvenile sea weed to harvest.
- iv. Seeding of seaweeds can be done by indoor culture stocks grown under conditions specified in these rules.
- v. In case of non-availability of organic seed material and/ or to maintain the wide gene pool with natural vigour juvenile sea weed from the wild can be supplemented in the growing area.
- vi. No fertilizers or any growth enhancing input shall be used in natural cultivation area on the coasts.
- vii. In case if seaweed is cultivated in tanks or juvenile seaweeds are raised in tanks then the coastal marine water without any treatment be used and the tanks shall have bottom surface as natural soil. Cultivation of seaweed in complete cemented tanks or made of artificial material without any contact with soil is prohibited.
- viii. Under inland tank conditions inputs authorised for use in crop production under Annex 1 and Annex 2 in Appendix 1 can be allowed by the certification body.
- ix. Use of synthetic inputs such as fertilizers, pesticides, hormones etc and genetically modified organisms or their products are prohibited.
- x. For sanitation and hygiene maintenance of tanks inputs allowed under Annex 9 of Appendix 2 can be authorised by the Certification body, but in all such cases it must be ensured that the washings of such operations are not drained to the sea.
- xi. In areas where cultivation is done in sea coast the product shall be allowed to be sold as organic after a minimum period of six months after the date of first inspection by the certification body. In case of inland tanks the product shall be allowed for sale as organic only after 24 months of starting the production after the date of registration with the accredited certification body. In cases where operator can demonstrate to the satisfaction of ACB that the land where cultivation tanks have been made has not been used for any cultivation activity then the conversion period can be reduced to 12 months after the date of first inspection.

- xii. Organic and nonorganic production units must be in separate facilities separated by space and time and have separate equipments, storage, processing facilities and drying beds. Tanks used for cultivation of seaweeds with prohibited inputs shall not be used for cultivation of organic seaweeds unless have gone through the conversion period as mentioned above.

4. Aquatic plants including algae

Cultivation of aquatic plants is a crop production activity and all requirements under Appendix 1, crop production, of these rules as applicable under aquatic environment shall apply including conversion requirements.

- i. Cultivation of aquatic plants in artificial tanks without any soil base or organic substrate/ media complying to the standards does not qualify for organic production under these rules.
- ii. Organic and nonorganic production units must be in separate facilities separated by space and time and have separate equipments, storage, processing facilities and drying beds. Tanks used for cultivation of aquatic plants with prohibited inputs shall not be used for cultivation of organic aquatic plants unless have gone through the conversion period as mentioned above.
- iii. The water used for cultivation shall be of potable quality and the soil shall be free from any contamination including heavy metals.
- iv. Use of synthetic chemicals/ prohibited substances for sterilization/ sanitation of production sites is prohibited, except the ones allowed under these rules.
- v. Mother culture or seeding material shall also be organic in compliance of these rules. In case of non-availability, non-organic seeding material can also be used without any chemical treatment or contamination.
- vi. Use of genetically modified seeding material is prohibited
- vii. Weeds shall be controlled by physical or biological prevention methods
- viii. Use of chemical fertilizers (including trace elements), pesticides, hormones etc is prohibited
- ix. Mineral fertilizers in their natural composition can be used. Fertilization practices shall be in conformity of practices allowed under Appendix 1 of these rules.

- x. Physical and biological practices can be used for pest management. Use of synthetic chemical substances and plants extracts harm full to human health shall not be used.
- xi. Inputs or substances approved under these rules in Appendix 1 can be used with the prior permission of certification body.
- xii. Processing of aquatic plants and their parts thereof shall be done in accordance with the requirements specified under Appendix 5 of these rules.

5. Green House Crop Production

Green house crop production is a crop production activity with difference that it is done under partially controlled conditions. All the requirements specified under Appendix 1 shall also apply under greenhouse (Glass house, poly house or net house) conditions, including conversion requirements of land. In addition following requirement shall also be met:

- i. Green house design and its surroundings shall be orientated towards environmentally positive outcomes and resource efficiency, including water reuse where applicable.
- ii. Hydroponic and aeroponic systems where plants are fed principally through soluble fertilisers through water cannot be certified under these rules as they are not grown in healthy and complex soil ecology.
- iii. Under green house conditions parallel production or split production under same green house is prohibited. In case if an operator cultivate both organic and conventional crops under green house then the two systems must be separate with adequate buffer zone and implements/ equipments used must be properly cleaned before using under organic operations.
- iv. During non-crop-production periods, a cover crop or green manure phase, or similar methods, shall be practised to ensure ongoing soil life protection and enhancement.
- v. Media used to produce plants may include coconut fibre and other sources permitted under Annex 1 of Appendix 1 of these rule or have been evaluated for their suitability as per the procedure prescribed under Annex 3 of Appendix 1 of these rules.
- vi. Media shall have contact with soil or mixed with soil and shall be incorporated or recycled during or at the end of the cropping cycle.
- vii. Where containers are used, containers shall consist of non-contaminating products of plant origin. Optimally such containers shall be reusable after phytosanitary considerations are satisfied.

- viii. Sterilisation of growing containers for purposes of disease management shall either utilise steam, heat or other physical means or other practices or products listed in Annex 9 of Appendix 2 of these rules.
- ix. The fertility management shall be in accordance with the fertilization policy for crop production under these rules.
- x. A diversity of crop species shall be chosen in any one season to ensure good rotations and general diversity.
- xi. Intercrops and harbouring floral species shall be encouraged for biocontrol agents.
- xii. Heating and lighting, where used, shall achieve best management practice in terms of efficiency and environmental impact, and wherever practicable shall rely upon renewable resources.