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QCS Private Aquaculture Standards

§ 105.101 Terms defined. (Please refer to 7 CFR 205.2 for additional definitions)

Livestock. Any cattle, sheep, goat, swine, poultry, equine animals, or aquatic animals used for food or in the production of food, fiber, feed, or other agricultural-based consumer products; wild or domesticated game; or other nonplant life.

Aquaculture. The propagation and rearing of aquatic animals and plants.

Aquaculture facility. Any land, structure, or other appurtenance used for aquaculture. Such term includes, but is not limited to, any laboratory, hatchery, rearing pond, tank, raceway, net pen, cage, raft, longline, geographically defined seafloor, or other structure or defined boundary used in aquaculture.

Aquaculture product. Any product of aquaculture, including but not limited to whole alive or dead aquatic animals, gutted fish, fillets and other forms of raw or processed meat, eggs for human consumption, eggs for reproduction, skin and other animal parts, and alive, fresh and dehydrated aquatic plants, either whole or processed. By-products from aquatic animals grown in aquaculture, such as, fish meal and oil, silage, and hydrolyzed offal, are included.

Aquatic animal. Any finfish, mollusc, crustacean, or other aquatic invertebrate grown in fresh, brackish or saltwater, except amphibians, reptiles, birds and mammals.

Aquatic animal brood stock. Sexually mature aquatic animals used to produce progeny that may be incorporated into an organic aquaculture production system.

Aquatic plant. Any plant grown in an aquaculture facility, including microscopic or macroscopic algae, and excluding vascular plants such as watercress, rice, water hyacinth, and hydroponic crops.

Aquaculture production system. A process for growing aquatic animals and plants in an aquaculture facility.

Bivalve molluscs. Molluscan shellfish including oysters, clams, mussels and scallops, but not including gastropods and cephalopods.

Coldwater finfish. Salmonids, cod, marine flatfish and other species not considered in this section as warmwater finfish.

Fish meal and fish oil. Fish meal is the dried ground tissue of undecomposed whole fish or fish cuttings, either or both, with or without the extraction of part of the oil. Fish oil is the oil from rendering whole fish, fish cuttings, or cannery waste.

Finfish. Aquatic vertebrate animals not including mammals, birds, amphibians and reptiles.

Metabolic products of aquatic animals. Solid and dissolved compounds released by aquatic animals during growth in an aquaculture production system.

Monosex stocks. Populations of aquatic animals of one sex obtained by artificially induced or natural processes, or by manual selection.

Persistent, Bioaccumulative Toxin (PBT). Chemicals that resist breakdown and are persistent in the environment, bioaccumulate in food chains through consumption or uptake, and are a hazard to human health or wildlife. Level 1 PBTs identified by EPA include aldrin/dieldrin, benzo(a)pyrene, chlordane, DDT and its metabolites, 6 hexachlorobenzene, alkyl-lead, mercury and its compounds, mirex, octachlorostyrene, PCBs, dioxins and furans, and toxaphene. Other candidate PBTs include brominated flame retardants and other halogenated organic compounds. A term related to PBT is POP (persistent organic pollutant) and, for the purposes of these standards, the terms are interchangeable.

Shellfish. Aquatic invertebrate animals including molluscs and crustaceans.

Silage (fish). A mixture of solids and liquids obtained by the breakdown of fish tissue using natural enzymes with or without addition of acids or bases to control spoilage and to enhance enzyme activity.

Triploid. Aquatic animals with three sets (3n) of chromosomes. Most aquatic animals are naturally diploid (2n). Triploid aquatic animals are typically sterile (non-reproductive) and tend to grow faster than diploid aquatic animals.

Warmwater finfish. Finfish with optimum temperatures for growth between 25 and 30 C. Examples include catfish, tilapia, and paddlefish.

Wild fish. Any species of fish or shellfish, raw or processed, harvested from wild sources used for food or in animal feeds, including feeds for aquatic animals.

105.102 Origin of Aquatic animal.

(a) Aquatic animal products that are to be sold, labeled, or represented as organic must be from Aquatic animals under continuous organic management from the start of exogenous feeding.

(b) The following are prohibited:
(1) Aquatic animal or edible Aquatic animal products that are removed from an organic operation and subsequently managed on a nonorganic operation may be not sold, labeled, or represented as organically produced.

(2) Culture of monosex stocks obtained by direct treatment with steroidal or other hormones (including methyl-testosterone), or by other direct treatment artificial induction methods, is prohibited.
(3) Cultivation of genetically modified aquatic animals and plants is prohibited.
(4) Production of triploid aquatic animals from the application of temperature or pressure shock after fertilization and by crossing tetraploids with diploids is prohibited for fish to be sold as organic.

(5) Brood stock that has not been under continuous organic management may not be sold, labeled, or represented as organic slaughter stock.

(c) The producer of an organic aquatic animal operation must maintain records sufficient to preserve the identity of all organically managed animals and edible and nonedible animal products produced on the operation.

(d) Culture of monosex stocks obtained by crossing sex-reversed broodstock or by hybridization is permitted. Culture of monosex stocks selected by visual or manual means is allowed.
(e) In cases where hatchery progeny of aquatic animals are not commercially available, broodstock may be collected from the wild provided that they are collected in a sustainable manner, and where appropriate, in collaboration with government agencies, to assure that natural populations and the collected individuals are protected and that biodiversity in the ecosystem is supported.

§ 105.103 Aquatic animal feed.
(a) The producer of an organic aquatic animal operation must provide aquatic animal with a total feed ration composed of agricultural products, that are organically produced and, if applicable, organically handled: Except, That, nonsynthetic substances and synthetic substances allowed under § 205.603 may be used as feed additives and supplements.

(b) Fish meal from wild caught and from rendering sources must not exceed 15% of the total ingredients. If the source of the fish meal is from certified organic source there is no cap on the percentage of fish meal that could be used.

(c) The producer of an organic operation must not:
(1) Use animal drugs, including hormones, to promote growth;
(2) Provide feed supplements or additives in amounts above those needed for adequate nutrition and health maintenance for the species at its specific stage of life;
(3) Feed mammalian or poultry slaughter by-products to aquatic animals; or
(4) Use feed, feed additives, and feed supplements in violation of the Federal Food, Drug, and Cosmetic Act.
(5) use feedstuffs extracted with synthetic solvents not approved on the National List; 7 CFR 205.603
(6) use artificial and/or synthetic pigments or artificial coloring agents;
(7) use any genetically modified organism or product thereof as a feed ingredient; or
(8) apply manure that is not composted according to7 CFR 205.203 to any aquaculture system.

§ 105.104 Aquatic animal health care practice standard.
(a) The producer must establish and maintain preventive Aquatic animal health care practices, including:

(1) Selection of species and types of Aquatic animals with regard to suitability for site-specific conditions and resistance to prevalent diseases and parasites;

(2) Provision of a feed ration sufficient to meet nutritional requirements, including vitamins, minerals, protein and/or amino acids, fatty acids, energy sources, and fiber;

(3) The maintenance of healthy water rearing conditions including control of potentially toxic metabolic compounds (ammonia and carbon dioxide) within

acceptable ranges for the species, appropriate water temperatures, adequate levels of oxygen, and pH, with the prevention of extended excursions to stressful extremes. Efforts to maintain such conditions must be documented by a suitable monitoring and record keeping program for key water quality parameters that affect health. The frequency of such monitoring shall depend on the culture system, site, species, life stage, and environmental characteristics;

(4) Establishment of biosecurity measures to limit entry of pathogens into the aquaculture production system and operational procedures and sanitation practices to minimize the occurrence, transmission, and severity of disease epizootics. Biosecurity measures should not be used as an approach to compensate for growing conditions that compromise aquatic animal health from elevated stress and associated immunosupression;

(5) Provision of conditions which allow for exercise, freedom of movement, and reduction of stress appropriate to the species;

(6) Administration of vaccines and other veterinary biologics.
(b) When preventive practices and veterinary biologics are inadequate to prevent sickness, a producer may administer synthetic medications: Provided, That, such medications are allowed under § 205.603. Parasiticides allowed under § 205.603 may be used on
(1) Brood stock, but none that are to be sold, labeled, or represented as organically produced.
(c) The producer of organic aquaculture products must not:
(1) Sell, label, or represent as organic any aquatic animal or edible product derived from any aquatic animal treated with antibiotics, any substance that contains a synthetic substance not allowed under §205.603, or any substance that contains a nonsynthetic substance prohibited in §205.604.
(2) Administer any type of animal medication, other than USDA approved or licensed vaccines, in the absence of illness;
(3) Administer hormones for growth promotion;
(4) Administer synthetic parasiticides;
(5) Administer animal drugs in violation of the U.S. Food and Drug Administration regulations, and vaccines in violation of US Department of Agriculture regulations; or
(6) Withhold medical treatment from a sick animal in an effort to preserve its organic status. All appropriate medications must be used to restore an animal to health when methods acceptable to organic production fail. Aquatic animals treated with a prohibited substance must be clearly identified and shall not be sold, labeled, or represented as organically produced. Facilities containing aquatic animals during medical treatment are not required to undergo conversion periods specified in paragraphs (k), (l) and (m) of § 105.106 Aquaculture facilities.

§ 105.105 Aquatic animal living conditions.

(a) The producer of an organic aquatic animal operation must establish and maintain aquatic animal living conditions which accommodate the health and natural behavior of animals, including:

(1) an environment operated within the tolerance limits characteristic of the aquatic animal and stage of development by monitoring and maintaining water qualities appropriate for the production system and species including temperature, pH, salinity, photoperiod, dissolved oxygen, and ammonia and nitrite concentrations, without sudden

changes or prolonged exposure to extremes;

(2) containment that allows the animals:

(i) freedom of movement and opportunity to exercise within the culture system; and
(ii) minimal potential for injury.

(b) The culture system must be managed to minimize the risk of losses of cultured stock and stress to cultured aquatic animals caused by predators. Organic aquaculture facilities must develop an integrated predator deterrence plan that identifies potential predators, appropriate deterrence methods, how predator behavior will be modified by application of deterrence methods, contingencies for failure of the plan to achieve objectives, and documentation of control methods and effects. Examples of such control measures include site selection, physical barriers, repellents, and legal predator deterrence methods. Lethal measures may be taken only when predators threaten human safety or are necessary for predator welfare (e.g. birds are entangled and injured) and must include appropriate documentation. Lethal measures must be in compliance with local laws and the laws of the United States.

(c) Non-organic aquatic animals may be used in aquaculture production systems for controlling pests, such as weeds, snails, and algae. Triploid animals may be employed provided that the animals are legal to culture, are not labeled organic, and are readily separated at harvest from the aquatic animals under organic management.

§ 105.106 Aquaculture facilities.
(a) Location of organic aquaculture facilities shall take into consideration the maintenance of the aquatic environment and surrounding aquatic and terrestrial ecosystem.
(b) Water sources for aquaculture facilities must be carefully selected and managed to avoid potential environmental contaminants that can harm human health.

(c) Facility boundaries shall be clearly identified.

(d) Organic aquaculture facilities shall be at appropriate distances from potential contamination sources including pesticide drift and other possible contaminants from conventional aquaculture.

(e) Pond berms and tank tops shall be at sufficient elevations to prevent contamination from the environment during floods.

(f) Potentially adverse environmental impacts from aquaculture production must be minimized. The rate of effluent discharge must not exceed the natural assimilative capacity of an area within 25 meters of the site boundary nor contribute significantly to environmental degradation beyond 25 meters of the site boundary. For the purpose of this paragraph, "site" is the area licensed or leased by government authorities, or other parties, for the aquaculture facility.

(g) Every organic aquaculture facility must develop a nutrient management plan that evaluates the technical and economic feasibility of options appropriate for the culture system to recover solid and dissolved waste nutrients in other plant and animal crops.

Options may include using settled solids as a soil amendment, suspended solids to grow filter-feeding aquatic animals, and dissolved nutrients as a nutrient source for terrestrial crops, aquatic plants, or crops grown hydroponically.

(h) Facilities should not significantly impact freshwater quality or supply and should not salinize or otherwise contaminate soils.

(i) Effluent discharges must comply with all local, state and national water quality laws and regulations, and include treatment when necessary.

(j) Cultured organisms that are species-distinct or genetically-distinct populations from native organisms in adjacent aquatic environments must be managed with appropriate security measures (mechanical, physical, and biological barriers) to eliminate to the greatest extent practical escapes due to predators, adverse weather conditions (including floods), or facility damage. The facilities must include preventative measures against possible escapes into the natural environment of the aquatic animals in production, including during local floods. A containment management plan must describe measures to prevent escape, procedures to detect and document escapes should they occur, and actions to be undertaken in the event of escape.

(k) Open water net-pens and enclosures are permitted where water depth, current velocities and direction, stocking densities, and other factors act to adequately disperse metabolic products in order to minimize accumulation of discharged solids on the bottom sediments under the net pens. However, water currents should not be excessive to cause the fish to expend excessive energy to swim and to be unable to consume food. Monitoring shall be employed to ensure that the natural assimilative capacity at the site is not overburdened. Facility managers shall take all practicable measures to prevent transmission of diseases and parasites between cultured and wild aquatic animals. Use of multiple species of aquatic plants and animals to recycle nutrients must be included in every management plan. Except as may be provided in § 205.601 or § 205.602, chemical treatment of biofouling organisms on nets is not allowed. An organic conversion period of at least one year, or one crop cycle, whichever is less, shall be required.

(l) Production systems with direct soil-water contact are allowed provided that a conversion period of one year or one crop cycle, whichever is less, occurs under organic management before production can be certified organic as specified in § 205.202, Land requirements.

(m) Production systems with containment vessels of plastic, metal or concrete surfaces are allowed provided that a conversion period of one year or one crop cycle, whichever is less, occurs under organic management before production can be certified organic.

(n) Recirculating systems are permitted if the system supports the health, growth, and well-being of the species, including:

(1) minimization of disease organisms being introduced vertically through eggs or otherwise from parents, from water inflows, from feeds, from vectors including birds, and humans, or other sources.

(2) frequent testing to provide for the maintenance of healthy water conditions

that meet the natural requirements of the species with respect to control of potentially toxic metabolic compounds (ammonia, carbon dioxide, etc.), optimum temperatures, adequate levels of metabolic inputs (oxygen and feed), and pH, all within acceptable ranges depending upon the species, with the prevention of extended excursions to stressful extremes, and with sufficient dewatering and rewatering to prevent accumulation of toxic compounds.

(3) minimization of other health compromising stresses.

(4) stocking density levels that take into consideration animal health and overall well-being, including the natural schooling characteristics of the species.

(5) the provision of adequate backup life support systems to provide appropriate maintenance of water quality and dissolved oxygen levels in the event that primary life support systems fail.

§ 105.107 Farmed aquatic plants.

(a) Aquatic plant production in any aquaculture production system shall meet all relevant crop production standards.

(b) Aquatic plants may be grown in organic systems for human consumption and as feed for aquatic species that utilize algae for food, provided that:

(1) any pond or containment vessel from which algae are intended to be represented as "organic," must have had no prohibited substances as listed in § 205.105, applied for a period of 1 year immediately preceding harvest of the crop, except, non-organic macro-nutrients and micro-nutrients, including trace metals, vitamins, and chelating compounds, are allowed to have been in prior uses where non-synthetic nutrients and compounds suitable for the algae species were not available.

(2) aquatic plants may be provided dissolved non-organic micro-nutrients, including trace metals, vitamins, and chelating compounds, where non-synthetic nutrients and compounds suitable for the algae species are not available; however, the dissolved amounts shall not exceed those necessary for healthy growth of the plants, and such culture media shall be disposed of in a manner that does not adversely impact upon the environment.

(3) the pond or containment vessel should have adequate berm elevations with distinct defined boundaries and buffer zones with runoff diversions to prevent the unintended application of a prohibited substance to the pond or containment vessel; and must prevent contact between organic aquatic animals and any prohibited substances applied to adjoining land that is not under organic management.

(c) Manure from terrestrial animals may not be used to fertilize aquatic plants unless composted as provided under § 205.252 Aquaculture feed.

Please see attached List for allowed and prohibited substances.