

Quality Certification Services (QCS)  
QCS Aquaponics GAPs Food Safety Standard  
for Growing and Harvesting  
Requirements and Compliance Criteria

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ID #	Requirement	Compliance Criteria	Level
<b>1</b>	<b>General to Aquaponic Operation</b>		
<b>1.1</b>	<b>General Management</b>		
1.1.1	Are there official documents demonstrating that the legal entity and all production sites (for crops and aquaculture) have been registered with the state or corresponding authority for the activity?	Registration documents are available.	Must
1.1.2	Are all production units identified and production records exist for each individual production unit (i.e. crops and aquaculture)?	All production units are individually identified and production records exist for each production unit.	Must
1.1.3	Is there a written food safety policy in place?	A written policy shall outline a commitment to food safety, indicating how the policy is implemented and communicated to employees. It must be signed by operation responsible persons (i.e. owner/senior management).	Must
1.1.4	Does the producer conduct at least one annual internal self-assessment utilizing this standard?	There is evidence (e.g. self-audit checklist) that an internal self-assessment has been completed by the producer before scheduling an audit with QCS.	Must
1.1.5	Are there corrective actions taken as a result of non-compliances detected during the internal self-assessment?	Necessary corrective actions are taken and implemented.	Calc
1.1.6	Are all records requested during the external inspection maintained and available on-site for a minimum of 60 days initially (i.e. the first audit) and retained for a minimum of two years thereafter?	Producers must maintain up-to-date records for a minimum of two years. Sixty days of records demonstrating compliance with this standard must be available for the first audit by QCS.	Must

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1.1.7	Is product traceability possible one step forward, one step back?	Product traceability is documented to trace product back one step (to the immediate supplier) and forward one step (to the immediate customer).	Must
1.1.8	Are there documented procedures on how to initiate and manage product withdrawal/recall from the marketplace?	The producer must have documented procedures which identify the person(s) responsible for withdrawal/recall of product, the mechanisms for notifying customers and QCS, and methods of reconciling stock.	Calc
1.1.9	Is the water for the initial startup potable water or treated to reach potable quality?	There is documented evidence of potable water usage and/or water treatments to reach potability at startup.	Calc
1.1.10	Is water used to offset evaporation or any other system losses potable or treated to reach potable quality?	There is documented evidence of using potable water and/or water treatments to reach potability to offset evaporation or other system losses.	Calc
1.1.11	If used, are applications of water inputs performed or indicated by competent persons?	The persons responsible for indicating or applying inputs to the water must demonstrate competency (e.g. formal qualifications, specific training courses, access to product technical literature, and/or use of formal tools such as specific software).	Calc
1.1.12	Do records of all inputs applied to the water include input composition, location(s), date(s), and quantities applied?	Records are kept of all water inputs detailing the location applied, the exact dates (including day/month/year) of application, the trade name, concentration of active ingredients, quantities applied, and purpose of the application.	Calc
<b>1.2</b>	<b>Hygiene</b>		
1.2.1	Is there visible signage at each production site displaying hygiene instructions for all workers, visitors and subcontractors?	The hygiene instructions are visibly displayed in the language spoken by employees and/or pictorially. At a minimum the instructions must include: a) importance of and procedures for hand washing; b) covering of skin cuts; c) prohibition on smoking, eating, and drinking in non-designated areas; d) notifications and restrictions from direct contact with product of persons showing signs of illness or allergy (e.g. inflammation after handling produce, vomiting, jaundice, diarrhea); and e) use of suitable protective clothing.	Must

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1.2.2	Have all workers working on the production site received annual basic hygiene training according to the operation's hygiene instructions provided?	Documented evidence of annual hygiene training is available for all workers. New hires must receive hygiene training as part of their orientation prior to performing any duties at the production site. Owners and managers must also participate in the operation's annual hygiene training.	Calc
1.2.3	Are the hygiene procedures being followed by workers, visitors, and subcontractors?	There is visual evidence that all persons are following the company's hygiene instructions.	Calc
1.2.4	Is the production site and surrounding areas maintained in a reasonably clean and hygienic condition?	The production site and surrounding areas are kept reasonably clean and free of trash and other wastes.	Calc
1.2.5	Is the production site free of warm blooded animals?	The production site is free of warm blooded animals (e.g. wild, feral, domesticated, pet, etc).	Calc
1.2.6	Do workers have access to clean food storage areas, designated rest areas, and potable drinking water?	A place to store food, eat and/or rest, and potable drinking water is provided to all workers.	Calc
1.2.7	Do workers have access to clean toilets and hand washing facilities?	A sufficient number of toilets and hand washing facilities in close proximity of production areas (e.g. 5 minutes walking) must be provided at each production unit. Each facility must have potable water, soap, single use towels or other hygienic hand drying options, trash can(s), and instructions for proper hand washing.	Must
1.2.8	Is all human waste from toilets collected and disposed of through sanitary sewage disposal systems and not released directly into the environment as untreated raw sewage?	Records of waste disposal as well as collection facilities for such wastes must be in place.	Must

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1.2.9	Is a pest control program in place to mitigate the risk of pest infestation?	Preventive measures and pest control records must be in place. The location of all pest control devices are identified on a map or diagram of the production site.	Must
1.2.10	Is effluent water quality in compliance with existing applicable local regulations? Where no such regulations exist, are there facilities for the treatment of effluent water to minimize the potential for polluting the environment?	Sampling results and any applicable records must be available at inspection to ensure that any effluent water discharged to the environment does not result in intolerable levels of nitrate, phosphate, or suspended solids, for instance, per prevailing regulations.	Calc
1.2.11	Is sludge collected and disposed of in a manner to minimize the potential for polluting the environment?	There is evidence that sludge, if any, is collected and disposed of in a manner as to minimize environmental pollution.	Calc
1.2.12	Are personal belongings stored only in designated areas? Is the wearing of jewelry and body piercings in compliance with the operation's policy?	Visual confirmation that personal belongings are stored only in designated areas and the policy for the wearing of jewelry and body piercings is followed.	Calc
1.2.13	Is there a sufficient number of first aid kits available at the production site?	There are a sufficient number of first aid kits properly identified and easily accesible by workers that are in compliance with local legislation.	Calc
<b>1.3</b>	<b>Chemical Management and Storage</b>		
1.3.1	Is there adequate material and/or equipment for measuring and/or mixing chemicals to ensure safe and accurate dosing?	The chemical measuring and mixing areas have suitable equipment, including measuring cups, jars, and scales, for the dosing of all chemicals in store. The equipment must not be used for any other purpose.	Calc
1.3.2	Does storage and disposal of empty containers and excess chemicals take place in a manner that avoids spillage and exposure to products, humans, and animals?	The storage and disposal system in place ensures that products, persons, or animals cannot incidently come into contact with empty containers or chemicals, and in a manner that avoids spillage.	Calc

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1.3.3	Is there a documented chemical inventory that is readily available for all chemicals in store?	For all chemicals in store, there must be a documented, up-to-date inventory record including records of use and supply.	Must
1.3.4	Are material and safety data sheets available for all chemicals?	Material safety data sheets must be available for all chemicals; which at minimum indicate chemical composition/active ingredients, toxicity information, dosing and application method, required protective clothing for handling, emergency information, and actions taken in case of operator contamination.	Calc
1.3.5	Are chemicals stored in accordance with label instructions, legislation (including refrigeration where required) in a secure, lockable, well-ventilated, well-lit location, and physically separated to avoid cross contamination?	Chemicals must be stored in a secured lockable location and under conditions in accordance with label instructions and physically separated to minimize risk of cross contamination.	Calc
1.3.6	Are chemicals stored away from harvested products as to not be a source of contamination?	Chemicals cannot be stored with harvested products.	Must
1.3.7	Is the use of empty hazardous chemical containers prohibited?	There is evidence that empty hazardous chemical containers are not being re-used in any form. Refill of smaller quantities is allowed for the same chemical.	Must
<b>2</b>	<b>Crops</b>		
2.1	Is water used for production analyzed for microbial contaminants at least once a year or more frequently if needed?	Water analysis is carried out at frequency according to the sanitization system in place (i.e. chlorination, ozonation) and/or based on scientific literature (minimum once a year). Samples are to be taken at the exit point of the irrigation system or the nearest practical sampling point. Records are in place documenting the laboratory analysis, microbial contaminants tested for, and the results.	Must

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2.2	Is the use of pesticides prohibited?	The use of pesticides is prohibited and there are no pesticides on-site.	Must
<b>3</b>	<b>Fish/Shellfish</b>		
3.1	Are all seedlings (e.g. fry, fingerlings, larvae, PLs) purchased from hatcheries within the country and from domesticated broodstock?	Wild captured seedlings are prohibited. Proof of purchase for the seedlings is required.	Must
3.2	If certification is required by law, are seedlings (e.g. fry, fingerlings, larvae, PLs) that are introduced into the system, certified to be free of known diseases?	Seedlings introduced into the system must be certified according to legislative requirements of known diseases. Records must be available on-site.	Must
3.3	If currently certified to this standard, have all fish/shellfish come from certified sources and been raised at a certified facility for their entire life cycle?	Traceability records and certificates, if applicable, are required to prove that all fish/shellfish come from production sites certified to this standard and have been raised at a certified facility for their entire life cycle.	Must
3.4	Workers demonstrate an understanding of basic fish/shellfish health and hygiene practices, and implement those practices in line with the structure and complexity of the operation?	A written procedure for fish/shellfish health and hygiene practices must be in place. Records exist which cover water quality, cleaning methods, cleaning agents and disinfectants, application rates, dates, and frequency. Workers understand and are following procedures for fish/shellfish health and hygiene.	Calc
3.5	Is all equipment with direct or indirect contact to the fish/shellfish constructed of materials that allow proper cleaning and disinfection?	Equipment with direct or indirect contact to the fish/shellfish must be constructed of materials that allow proper cleaning and disinfection.	Calc
3.6	Is all compound feed for the fish/shellfish suitable for the species being farmed?	Records are in place that demonstrate feed given to the fish/shellfish is suitable to the species.	Calc



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3.7	Does the operation have a system in place to ensure that the amount of feed given is in accordance with the needs and appetite of fish/shellfish stock in the production unit?	The operation must have a system in place to ensure that the amount of feed given is in accordance with the needs and appetite of fish/shellfish stock in the production unit. Feeding records must be present.	Calc
3.8	Are batches of fish/shellfish feed traceable from the feed manufacturer to the lots of fish/shellfish produced? And invoices of purchased feed maintained for two years?	Batches of feed from the feed manufacturer must be traceable to lots of fish/shellfish produced. A system of documentation must be in place.	Calc
3.9	Is all feed consumed prior to expiration?	Feed whose shelf life has expired must not be used. A system must be in place to monitor expiration dates on feed labels.	Calc
3.10	Is feed, including all medicated feed, stored and handled in accordance with manufacturer instructions to minimize any risk of contamination?	Proper training and instructions for storing and handling must be in place and implemented for regular and medicated feed (separated for different species, when applicable).	Calc
3.11	Does the operation have a routine water quality monitoring program which takes into account the fish/shellfish health and welfare?	The operation must have a control system for water quality in place. The system must include relevant water quality parameters and sampling points to ensure fish/shellfish health and welfare, such as temperature, dissolved oxygen, pH, ammonia, and suspended solids. Records for each production unit must be in place.	Calc
3.12	Are approved medicines used at the operation prescribed by a fish health professional or according to national legislation?	Approved medicines used by the operation must be prescribed by a fish health professional or according to national legislation. Applications have to be carried out according to label use instructions.	Must

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3.13	Does the operation maintain an up-to-date record of approved medicines purchased and administered to all fish/shellfish stock, including medicated feed, for 2 years?	Medicines in store must be inventoried and records of purchase and use must be maintained. The <i>Purchase record</i> must indicate: date of purchase, name of product, and quantity purchased. The <i>Administration record</i> must indicate: batch #, date administered, identity of production unit treated, biomass of fish/shellfish treated, dosage and total quantity of medicine used, date treatment finished, date withdrawal period completed (i.e. earliest date the fish/shellfish are available for consumption), and the name of the person who administered the medicine daily.	Calc
3.14	Is there a system in place to identify batches of fish/shellfish while receiving treatment and that have received treatment, for which there is a required pre-harvest withdrawal period?	A system must be in place to identify and prevent the accidental harvest of batches of fish/shellfish while receiving treatment or that have received treatments that are in pre-harvest withdrawal period. Withdrawal periods are applicable to all production units sharing the same water. Workers understand and are following procedures for fish/shellfish withdrawal periods.	Calc
3.15	Are pre-harvest withdrawal periods for relevant treatment of the production unit recorded?	There must be a written confirmation of the nature and dates of treatment, and the date that the pre-harvest withdrawal period will be completed. Any fish/shellfish subsequently sold to another operation before pre-harvest period has expired, must be identified as such.	Calc
3.16	Are mortality rates recorded and the dead removed on a daily basis?	Mortalities should be removed from the production units daily. Mortality records must be available for inspection. An unusual number or mortalities must be immediately reported to authorized personnel.	Calc
3.17	Is there a procedure for dead fish/shellfish removal, storage, and disposal that ensures that risk of pathogen and disease spread to own stock and wild fish/shellfish species is avoided and in line with national legislation?	Removed dead fish/shellfish is intermediately stored and disposed of in a way to ensure that environmental aspects and risk of pathogen and disease spread to own stock and wild fish/shellfish species is avoided and in line with national legislation. Operation records must be in place to show protocols for dead fish/shellfish removal, storage, and disposal.	Calc

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3.18	Are records kept which detail maintenance for all machinery and equipment (including filters) that are critical to ensure good fish/shellfish health and welfare?	For machinery and equipment critical to ensure good fish/shellfish health and welfare, records documenting appropriate maintenance must be in place.	Calc
3.19	Are systems and equipment that fish/shellfish are dependent upon (e.g. oxygen level and pump pressure systems) equipped with alarms?	Where fish/shellfish health and welfare can be compromised due to system and equipment failure, these systems and equipment shall be equipped with alarms.	Calc
3.20	Are oxygen supplementation systems available and maintained in good repair? Is there a back-up generator in case oxygen levels drop below the minimum for the species welfare?	Oxygen levels must be maintained at or above minimum species requirements at all times even at maximum tank biomass. A spare oxygen supplementation system is available in case of failure of the principal system where needed and a back-up generator is in place.	Calc
<b>4</b>	<b>Harvesting of Crops &amp; Fish/Shellfish</b>		
4.1	Is the harvesting of crops and fish/shellfish segregated?	The harvesting of crops and fish/shellfish is segregated physically or occurs at different times.	Must
4.2	Is a pre-harvest check conducted? Is there evidence of animal activity in the production site that could pose a potential food safety risk?	A pre-harvest check is conducted and appropriate measures taken to reduce possible contamination within the growing area before harvesting of products.	Calc
4.3	Is there a documented hygiene procedure for the harvesting process specific to the production system and products farmed?	There is a documented hygiene procedure for the harvesting process that is specific to the products and production system.	Must

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4.4	Have workers been trained on hygiene procedures specific to harvesting prior to handling products?	If there are hygiene requirements exceeding 1.2.1, then there must be evidence that the workers received specific training regarding hygiene procedures for the harvesting process. Workers must be trained to prevent physical (e.g. snails, stones, insects, knives, fruit residues, watches, mobile phones, etc.), microbiological, and chemical contamination of the product during harvest.	Calc
4.5	Are documented hygiene procedures for the harvesting process implemented?	There is visual evidence that the workers are complying with the training instructions and procedures.	Calc
4.6	Do harvest workers that come into direct contact with the products wash their hands when necessary?	Workers shall wash their hands prior to the start of work, after using the toilet, after using a handkerchief/tissue, after handling contaminated material, after smoking, eating or drinking, after breaks and prior to returning to work, and at any other time when their hands may have become a source of contamination.	Calc
4.7	Are crop containers used exclusively for crops? Are fish/shellfish containers used exclusively for fish/shellfish? Are containers cleaned prior to use?	Dedicated containers are used for specific harvested products and they must be cleaned prior to use.	Calc
4.8	Are there written procedures on the handling & sanitation of glass and clear hard plastics and protocols in place to handle breakages?	Written procedures exist for the handling of glass and/or clear hard plastics and protocols are in place to handle breakages.	Calc
4.9	If ice (or water) is used at any time during harvest, is potable water used and handled under sanitary conditions to prevent product contamination?	Any ice (or water) used during harvest must be potable and handled under sanitary conditions to prevent product contamination.	Must
4.10	If ice is used for stunning purposes of fish/shellfish, is there enough ice in the water slurry mix at all times?	There must be a sufficient amount of ice added to the water slurry mix to ensure appropriate cooling at all times. There is visual evidence of compliance.	Calc

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4.11	Is the handling and transportation of fish/shellfish done in a manner that prevents contamination? Are transport units clean and are lids secured to prevent leakage and loss of fish?	Records must be available that demonstrate transport units are clean and fish/shellfish are handled in way to prevent contamination, leakage, and loss. Workers understand and are following procedures for fish/shellfish handling and transportation.	Calc
<b>5</b>	<b>Packing at Point of Harvest, Storage and Transport</b>		
5.1	Does the hygiene procedure for the harvesting process consider handling and packing within the production unit, including short term storage at the production site?	All products packed and handled directly must be properly stored. The operation must comply with food safety requirements if products are to be stored on a short term basis at the production site.	Calc
5.2	Are packing materials stored in a way that prevents possible contamination?	Packing material must be stored in a way that prevents possible contamination.	Calc
5.3	Is packed product protected from contamination?	All packed products must be protected from contamination.	Calc
5.4	Are short term storage areas clean?	If packed product is stored on-site, storage areas must be cleaned.	Calc
5.5	If applicable, are temperature and humidity control records maintained for packed product stored on-site?	When packed product is stored on-site, temperature and humidity controls (where applicable) must be documented and maintained.	Calc
5.6	Are vehicles used for transport of harvested products cleaned and well maintained prior to loading?	Vehicles used for transport of harvested products are cleaned and well maintained so as to prevent product contamination (e.g. soil, dirt, chemicals, etc.). There is visual evidence of compliance.	Calc
5.7	If this is the responsibility of the producer, are harvesting and transportation undertaken in a way that does not compromise food safety and are all product containers labeled?	Documented harvest and transport hygiene records, and temperature records (if applicable), must be in place. Product containers must be labeled.	Calc

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QCS Acceptance Criteria for the  
QCS Aquaponics GAPs Food Safety Standard  
for Growing and Harvesting

1. No requirements are assessed as Immediate Corrective Action Required (ICAR).
2. Falsification of records is considered an "ICAR".
3. Requirements with level "Must" must be assessed as "Yes" = compliant.
4. At first audit at least 80% of the applicable requirements with level "Calc" must be assessed as "Yes" in each major applicable section.
5. When pursuing a certification renewal, previous "Calc" non-compliances must have been addressed to at least reach 90% as "Yes".

If an operation **meets this acceptance criteria**, the operation will receive a certificate stating its conformance to the QCS Aquaponics GAPs Food Safety Standard.

A corrective action report will still be supplied to the auditee for all non-compliances.

If an operation **does NOT meet this acceptance criteria**, a corrective action report will be issued to the auditee for all non-compliances.

Auditee will have 14 calendar days after the audit date to submit corrective actions to the auditor.

A follow-up on-site auditor verification may be required to close non-compliances when submitted corrective action is not enough.

Otherwise, the operation may schedule a new audit at a later date to show compliance after taking corrective actions.