



FOOD SAFETY MODERNIZATION ACT PRODUCE SAFETY RULE ADD-ON

Control Points and Compliance Criteria

ENGLISH VERSION 1.3_SEP22

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The order of contents for this add-on has been modified from the final Produce Safety Rule so that producers, inspectors, and auditors may navigate through the control points in a logical flow, considering the elements that may or may not be applicable to the producer(s). The second subset of rules relates directly to product handling (which may not be applicable to all farms) and follows the GLOBALG.A.P. Integrated Farm Assurance (IFA)'s logical order from production to postharvest.



1 INTRODUCTION

The IFA standard is the most widely utilized food safety certification program for fresh produce in the world. With the enactment of the Produce Safety Rule (PSR) of the Food Safety Modernization Act (FSMA), there is great interest in having the IFA standard serve as a tool to support compliance with the PSR. The PSR (“Standards for the growing, harvesting, packing, and holding of produce for human consumption”) can be found in the Federal Register Notice [here](#).

At the time of release of this document, the United States Food and Drug Administration (FDA) did not have a system in place to recognize private certification programs for compliance with the PSR. In response to our short-term stakeholder needs, the GLOBALG.A.P. Secretariat developed this add-on for PSR evidence of implementation.

The GLOBALG.A.P. USA Crops National Technical Working Group conducted a detailed comparative analysis of the IFA standard version 5 against the PSR. The results showed that IFA users meet the majority of PSR requirements, but it also revealed some fundamental differences, namely agricultural water requirements and acceptable treatment methods for biological soil amendments.

The IFA standard is a food safety certification program recognized by the Global Food Safety Initiative (GFSI) and serving as a set of “best practices” for the production of fresh fruit and vegetables. In certification to a private standard, it is an ideal that producers work to achieve certification in which all control points are not categorized as Major Musts. By contrast, the PSR is a body of regulations which by definition is a set of minimums in which every control point is equivalent to a Major Must and which shall be followed in the growing, harvesting, packing, and handling of fresh fruit and vegetables produced or consumed in the United States and its territories. This, along with other fundamental differences included in this add-on, makes it challenging to benchmark the IFA standard to the PSR.

The GLOBALG.A.P. Secretariat offers this add-on, which highlights the identified gaps between the IFA standard for fruit and vegetables and the PSR, so that the user can make necessary adjustments to show implementation of the PSR. The FSMA PSR add-on is a voluntary add-on which can be used by any producer who is within the United States, currently exporting to the United States, or with future plans to export to the United States, with an existing GLOBALG.A.P. IFA certificate for fruit and vegetables. Conformance to the FSMA PSR add-on does not guarantee conformance to the FDA’s regulations; however, the add-on does prepare auditees and foreign supplier verifiers with tools for PSR readiness.

This add-on is intended to help IFA users comply with the PSR both in the USA and in other countries. Differences between the IFA standard and the PSR are adapted in the control points and compliance criteria (CPCCs) on the following pages, so that the user can make the necessary adjustments to implement the requirements of the PSR. However, every producer should review the PSR for compliance details that may not be covered in this add-on.

Subpart E refers to agricultural water. Previously, the FDA had [extended the compliance dates](#) for the preharvest agricultural water provision, while the FDA took enforcement discretion. The FDA has since published a [revised agricultural water rule](#) in December 2021. [Per the FDA](#): “The agency [FDA] intends to exercise enforcement discretion for the agricultural water requirements for covered produce while proposing to extend the compliance dates for all subpart E provisions applicable to such produce, with the goal of completing the compliance date rulemaking as quickly as possible.”



Therefore, regarding agricultural water, CPCCs in section 7 are scored as Recommendations until the FDA enforces the original requirements or the CPCCs are updated to reflect the finalized revised requirements.

This add-on does not include some paragraphs suggested by the PSR through the word “may.”

Definitions of terms used in the PSR and in this add-on can be found in § 112.3 (c) of the PSR.

2 EXEMPTIONS AND APPLICABILITY

(For complete information regarding these topics, check requirements § 112.1 and § 112.2 in the PSR.)

The IFA standard and the FSMA PSR add-on do not exclude specific commodities from its scope nor exclude any company based on size. Note that the IFA standard does not cover the production of sprouts, therefore all requirements referring to sprouts in the PSR have not been included in this add-on. The term “covered produce” in the PSR and in this add-on means produce that is subject to the requirements of the PSR and the term “covered produce” refers to the harvestable or harvested part of the crop.

Examples of “covered produce”:

(1) Fruits and vegetables such as almonds, apples, apricots, apriums, artichokes (globe type), Asian pears, avocados, babacos, bananas, Belgian endive, blackberries, blueberries, boysenberries, Brazil nuts, broad beans, broccoli, Brussels sprouts, burdock, cabbages, Chinese cabbages (bok choy, mustard cabbage, and Napa cabbage), cantaloupes, carambolas, carrots, cauliflower, celeriac, celery, chayote fruit, cherries (sweet), chestnuts, chicory (roots and tops), citrus (such as clementine, grapefruit, lemons, limes, mandarins, oranges, tangerines, tangors, and unqi fruit), cowpea beans, cress (garden), cucumbers, curly endive, currants, dandelion leaves, fennel (Florence), garlic, genip, gooseberries, grapes, green beans, guavas, herbs (such as basil, chives, cilantro, oregano, and parsley), honeydew melons, huckleberries, Jerusalem artichokes, kale, kiwifruit, kohlrabi, kumquats, leek, lettuce, lychees, macadamia nuts, mangos, other melons (such as Canary, Crenshaw and Persian), mulberries, mushrooms, mustard greens, nectarines, onions, papayas, parsnips, passion fruit, peaches, pears, peas, pigeon peas, peppers (such as bell peppers/capsicums and hot peppers/chilies), pine nuts, pineapples, plantains, plums, plumcots, quince, radishes, raspberries, rhubarb, rutabagas, scallions, shallots, snow peas, soursop, spinach, sprouts (such as alfalfa and mung bean), strawberries, summer squash (such as patty pan, yellow, and zucchini), sweetsop, Swiss chard, taro, tomatoes, turmeric, turnips (roots and tops), walnuts, watercress, watermelons, and yams

(2) Mixes of intact fruits and vegetables (such as fruit baskets)

The PSR does include a number of exemptions. The PSR does not apply to:

- Produce that is not a raw agricultural commodity (RAC). (A raw agricultural commodity is any food in its raw or natural state.)
- The following produce commodities that the FDA has identified as rarely consumed raw: asparagus; black beans, great Northern beans, kidney beans, lima beans, navy beans, and pinto beans; garden beets (roots and tops) and sugar beets; cashews; sour cherries; chickpeas; cocoa



beans; coffee beans; collards; sweet corn; cranberries; dates; dill (seeds and weed); eggplants; figs; horseradish; hazelnuts; lentils; okra; peanuts; pecans; peppermint; potatoes; pumpkins; winter squash; sweet potatoes; and water chestnuts. This list was current at the time this document was released, but the FDA may change this list at its discretion. Therefore, it is always recommended to check the [FDA webpage](#) for possible changes regarding the exemptions.

- Food grains, including barley, dent- or flint-corn, sorghum, oats, rice, rye, wheat, amaranth, quinoa, buckwheat, and oilseeds (e.g., cotton seed, flax seed, rapeseed, soybean, and sunflower seed)
- Produce that is used for personal or on-farm consumption
- Farms that have sold an average annual value of \$25,000 or less in produce over the past three years

Under certain conditions, the PSR provides an exemption for produce that receives commercial processing that adequately reduces the presence of microorganisms of public health significance.

The PSR also provides a qualified exemption and modified requirements for certain farms (see requirements § 112.4 to § 112.7 of the PSR and also subpart R, “Withdrawal of qualified exemption”).

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 1	SUBPART C – WORKER QUALIFICATION AND TRAINING			
PSR 1.1	What minimum training requirements apply for workers who conduct a covered activity? § 112.22 (a)	Does the company provide training to all workers who handle produce or supervise the conduct of such activities, and does such training include the standards established by the FDA in the PSR?	All workers who handle produce or supervise such activities covered by the PSR shall receive training that includes the standards established by the FDA in the PSR, as applicable to their responsibilities. Additional requirements: <ul style="list-style-type: none"> • Hygiene training for persons that handle working animals • Training in handling and conveyance of soil amendments • Hygiene training for workers and visitors during harvest regarding observation of fecal matter and no distribution of dropped product • Training in inspection of harvest containers and equipment to ensure that they are functioning properly, clean, and maintained • Training in correcting problems with harvest containers or equipment, or reporting such problems to the supervisor Records of the training shall be kept; see subpart O.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 1.2	What minimum training requirements apply for workers who conduct a covered activity? § 112.22 (c)	Is there a supervisor who has successfully completed food safety training equivalent to a standardized curriculum recognized as adequate by the FDA?	At least one supervisor or responsible party for the farm shall have successfully completed food safety training at least equivalent to a standardized curriculum recognized as adequate by the FDA. The responsible party may be off-site; however, the responsible party with appropriate training shall have trained at least one on-site day-to-day supervisor identified as responsible for implementing food safety on the farm. Records of the training shall be kept; see subpart O.	Major Must
PSR 1.3	What hygienic practices must workers use? § 112.32	Do workers use hygiene practices to the extent necessary to protect against contamination of produce or food contact surfaces?	Workers shall maintain adequate personal cleanliness to protect against contamination of covered produce and food contact surfaces. <ul style="list-style-type: none"> • If gloves are used, workers shall wash hands before putting on gloves. • Workers shall maintain gloves in an intact and sanitary condition and replace gloves as needed. • Workers shall remove or cover hand jewelry that cannot be adequately cleaned and sanitized during periods in which covered produce is handled. 	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 2	SUBPART F – BIOLOGICAL SOIL AMENDMENTS OF ANIMAL ORIGIN AND HUMAN WASTE			
PSR 2.1	What are the requirements for handling, conveyance, and storage of biological soil amendments of animal origin? § 112.52 (a), (b), and (c)	Are biological soil amendments handled as to avoid contamination?	Any treated biological soil amendment of animal origin shall be handled, conveyed, and stored in a manner and location such that it does not become a potential source of contamination for covered produce, food contact surfaces, areas used for a covered activity, water sources, water distribution systems, and other soil amendments. Any treated biological soil amendment of animal origin shall be handled and conveyed in a manner and location that minimize the risk of its becoming contaminated by an untreated or in-process biological soil amendment of animal origin. Any biological soil amendment of animal origin that is known or reasonably believed to have become contaminated shall be handled, conveyed, and stored as if it were untreated. N/A if producer does not use biological soil amendments as considered under PSR.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 2.2	<p>What treatment processes are acceptable for biological soil amendments of animal origin that are applied in growing of covered produce?</p> <p>§ 112.54 (a) and (b)</p>	<p>Have acceptable treatment processes been used for biological soil amendments of animal origin that are applied in the growing of covered produce?</p>	<p>Records of treatments shall be kept. Acceptable treatment methods for a biological soil amendment of animal origin that are applied in the growing of covered produce shall be used and are as follows:</p> <ul style="list-style-type: none"> • A scientifically valid controlled physical process (e.g., thermal), chemical process (e.g., high alkaline pH), biological process (e.g., composting), or a combination of scientifically valid controlled physical, chemical, and/or biological processes that has been validated to satisfy the microbial standard in § 112.55 (a) for <i>Listeria monocytogenes</i>, <i>Salmonella</i> species, and <i>Escherichia coli</i> O157:H7; or • A scientifically valid controlled physical, chemical, or biological process, or a combination of scientifically valid controlled physical, chemical, and/or biological processes, that has been validated to satisfy the microbial standard in § 112.55 (b) for <i>Salmonella</i> species and fecal coliforms. <p>See Annex 2, “Soil amendments” for examples of composting processes mentioned and microbial standard thresholds.</p> <p>See Annex 2, “Soil amendments” for additional details. N/A if producer does not use biological soil amendments as considered under the PSR.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 3	SUBPART I – DOMESTICATED AND WILD ANIMALS			
PSR 3.1	<p>Does this regulation require covered farms to take actions that would constitute a “taking” of threatened or endangered species; to take measures or exclude animals from outdoor growing areas; or to destroy animal habitat or otherwise clear farm borders around outdoor growing areas or drainages?</p> <p>§ 112.84</p>	<p>Where the producer identifies animal cross-contamination as a potential risk, do the risk mitigation activities exclude “taking” of threatened or endangered species, destroying animal habitat, or otherwise clearing farm borders around outdoor growing areas or drainages?</p>	<p>Measures to mitigate the risk of animal intrusion as a potential source of contamination shall not include the “taking” of threatened or endangered species as defined by the United States’ “Endangered species act” (16 USC 1531-1544) (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct), in violation of the “Endangered species act.” The PSR does not require covered farms to take measures to exclude animals from outdoor growing areas or to destroy animal habitat or otherwise clear farm borders around outdoor growing areas or drainages.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 4	SUBPART K – GROWING, HARVESTING, PACKING, AND HOLDING ACTIVITIES			
PSR 4.1	<p>What measures must be taken if a producer grows, harvests, packs, or holds both covered and exempt produce?</p> <p>§ 112.111 (a) and (b)</p>	<p>If a producer grows produce that is included in the scope of the PSR and other produce that is exempt from the PSR and not grown, harvested, packed, or held in accordance with the PSR, are covered and exempt products kept separate and/or are appropriate comingling and cross-contamination prevention procedures in place?</p>	<p>If a producer grows, harvests, packs, or holds produce that is not covered by the FDA’s PSR (i.e., excluded produce in accordance with § 112.2) and also conducts such activities on covered produce, and the excluded produce is not grown, harvested, packed, or held in accordance with the PSR, then the producer shall take measures during these covered activities, as applicable, to:</p> <ul style="list-style-type: none"> • Keep covered produce separate from exempt produce (except when covered produce and exempt produce are placed in the same container for distribution); and • Adequately clean and sanitize, as necessary, any food contact surfaces that come into contact with exempt produce before using such food contact surfaces for covered activities on covered produce. <p>N/A if producer does not grow exempted produce.</p> <p>If a producer grows, harvests, packs, or holds both covered and exempt produce, but follows the IFA standard or Produce Safety Assurance standard and PSR add-on for both, this question may be marked “Yes.” The justification shall detail products covered, exempt, and explain how exempted produce activities are carried out.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 4.2	<p>What measures must be taken immediately prior to and during harvest activities?</p> <p>§ 112.112</p>	<p>Do producers ensure that produce likely to be contaminated is not harvested?</p>	<p>The producer shall take all measures reasonably necessary to identify and not harvest covered produce that is reasonably likely to be contaminated with a known or reasonably foreseeable hazard, including steps to identify and not harvest covered produce that is visibly contaminated with animal excreta. At a minimum, identifying and not harvesting covered produce that is reasonably likely to be contaminated with animal excreta or that is visibly contaminated with animal excreta requires a visual assessment of the growing area and all covered produce to be harvested, regardless of the harvesting method used. Additionally: The requirement under the PSR does not explicitly require a written policy or record. Observation and implicit policy may be verified through worker interviews.</p>	Major Must
PSR 4.3	<p>What requirements apply to dropped covered produce?</p> <p>§ 112.114</p>	<p>Do producers ensure that dropped produce is not distributed?</p>	<p>Producers shall not distribute dropped produce that is covered under the PSR. By definition, “dropped produce” is produce which drops to the ground before harvest. Dropped produce does not include root crops that grow underground (such as carrots), crops that grow on the ground (such as cantaloupe), or produce that is intentionally dropped to the ground as part of harvesting (such as almonds). In such cases, the inspector/auditor may select “N/A” and include normal conditions of growing and/or harvest in the justification column. Additionally: The requirement under the PSR does not explicitly require a written policy. Observation and implicit policy may be verified through worker interviews.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 4.4	What measures must be taken when packaging covered produce? § 112.115	Is produce packed in a manner that prevents the formation of <i>Clostridium botulinum</i> toxin?	Packaging of covered produce shall be conducted in a manner that prevents the formation of <i>Clostridium botulinum</i> toxin if such toxin is a known or reasonably foreseeable hazard (such as for mushrooms). This is applicable in the case of packaging with modified atmosphere, or a low- or non-oxygen atmosphere. Ways to reduce the potential for toxin formation include: <ul style="list-style-type: none"> • Use of perforated packaging film which allows free air access • Use of time-temperature integrators on individual packages of produce to signal when a cumulative time-temperature combination has been reached that presents a risk for <i>Clostridium botulinum</i> toxin formation • Use of antimicrobial compounds N/A for produce packed in normal atmospheric conditions.	Major Must
PSR 4.5	What measures must be taken when using food-packing (including food-packing) material? § 112.116	Are food packing and food-packing materials adequate for the intended use?	Food packing (including food packaging) material used shall be appropriate for the food safety of the products packed. Materials shall be: <ul style="list-style-type: none"> • Cleanable or designed for single use; and • Unlikely to support the growth or transfer of bacteria. Where reused food-packing material is used, materials shall be kept clean, such as by cleaning food-packing containers or materials or using a clean liner.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 5	SUBPART L – EQUIPMENT, TOOLS, BUILDINGS, AND SANITATION			
PSR 5.1	What requirements apply to toilet facilities? § 112.129 (b)1 and (3) § 112.33	Do toilet facilities comply with the PSR requirements?	Toilet facilities shall be designed, located, and maintained to: <ul style="list-style-type: none"> • Prevent human waste from contaminating covered produce, food contact surfaces, areas used for a covered activity, water sources, and water distribution systems • Provide for the sanitary disposal of waste and toilet paper • Be accessible to visitors 	Major Must
PSR 5.2	What requirements apply for handwashing facilities? § 112.130 2, 3(c) and (d) § 112.33	Do handwashing facilities comply with the PSR requirements?	Handwashing facilities shall have running water that meets microbial drinking water standards, e.g., zero detectable generic <i>E. coli</i> in 100 milliliters (ml), and shall not use untreated surface water. The producer shall provide appropriate disposal for waste (for example, wastewater and used single-service towels) associated with a handwashing facility and take appropriate measures to prevent wastewater from a handwashing facility from contaminating covered produce, food contact surfaces, areas used for a covered activity, agricultural water sources, and agricultural water distribution systems with known or reasonably foreseeable hazards. Antiseptic hand rubs shall not be used as a substitute for soap (or other effective surfactant) and water. Handwashing facilities shall be accessible to visitors.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 6	SUBPART O – RECORDS			
PSR 6.1	What general requirements apply to records required under this part? § 112.161 (a) and B(b)	Do records comply with the PSR requirements?	Except as otherwise specified, all records required under this part shall be dated and signed or initialed by the person who performed the activity documented. Records shall include actual values and observations. Records required under §§: <ul style="list-style-type: none"> • 112.7 (b) – qualified exemption • 112.30 (b)(2) – personnel training • 112.50 (b)(2) – agricultural water testing • 112.50 (b)(4) – water treatment monitoring • 112.50 (b)(6) – actions taken when agricultural water does not meet microbial quality thresholds • 112.60 (b)(2) – compost process • 112.140 (b)(1) and (2) – methods for cleaning and sanitizing tools and equipment Records shall be reviewed, dated, and signed, within a reasonable time after the records are made, by a supervisor or responsible party.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 6.2	<p>How long must records be kept?</p> <p>§ 112.164 (a)(2) and (b)</p>	<p>Are records kept for the length required by the PSR?</p>	<p>Records that a farm relies on to satisfy the criteria for a qualified exemption, in accordance with §§ 112.5 and 112.7, shall be retained as long as necessary to support the farm's status during the applicable calendar year.</p> <p>Records that relate to the general adequacy of the equipment or processes or records that relate to analyses, sampling, or action plans being used by a farm, including the results of scientific studies, tests, and evaluations, shall be retained at the farm for at least two years after the use of such equipment or processes, or records related to analyses, sampling, or action plans, is discontinued.</p>	<p>Major Must</p>
PSR 6.3	<p>What requirements apply for making records available and accessible to the FDA?</p> <p>§ 112.166 (a) and (b)</p>	<p>Are records made available to the FDA on request, as required?</p>	<p>The producer shall maintain all records required under the PSR readily available and accessible for inspection and copying by the FDA upon oral or written request. The producer has 24 hours to obtain records kept off-site in order to make them available and accessible to the FDA for inspection and copying.</p> <p>Where a producer uses electronic techniques to keep records, or to keep true copies of records, or uses reduction techniques such as microfilm to keep true copies of records, the producer shall provide the records to the FDA in a format in which they are accessible and legible. The procedure for records review by the FDA shall be evaluated; verification of the policy is only applicable if the FDA has requested records.</p>	<p>Major Must</p>

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7	SUBPART E – AGRICULTURAL WATER (PREHARVEST)			
	<p><i>The water requirements established by the FDA apply only to agricultural water. Agricultural water is defined as water that is intended to, or is likely to, contact the harvestable portion of covered produce or food contact surfaces. For example, where irrigation water is applied in a way that does not come into contact with the produce or a food contact surface, it is not considered agricultural water and therefore does not need to fulfill the requirements.</i></p> <p><i>Where the producer receives water from a public water supply that furnishes water that meets the microbial quality thresholds described in § 112.44 (a) and has public water system results or certificates of compliance that demonstrate that the water meets those requirements, agricultural water testing is not required.</i></p>			
PSR 7.1	<p>What requirements apply to agricultural water sources, water distribution systems, and pooling of water?</p> <p>§ 112.42 (b) and (c)</p>	<p>Are agricultural water distribution systems adequately maintained?</p>	<p>All agricultural water distribution systems under the control of the producer shall be maintained as necessary and appropriate to prevent the water distribution system from becoming a source of contamination for covered produce, food contact surfaces, areas used for a covered activity, or water sources. Such maintenance includes regularly inspecting and adequately storing all equipment used in the system.</p> <p>Such maintenance further includes regularly inspecting each source to identify any conditions that are reasonably likely to introduce known or reasonably foreseeable hazards into or onto covered produce or food contact surfaces; correcting any significant deficiencies (e.g., control of and repairs to well caps, well casings, sanitary seals, piping tanks and treatment equipment, and cross-connections); and keeping the source free of debris, trash, domesticated animals, and other possible sources of contamination of covered produce to the extent practicable and appropriate under the circumstances.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.2	<p>What requirements apply to treating agricultural water?</p> <p>§ 112.43 (a)(1), (2), and(2)(b)</p>	<p>If agricultural water is treated, are the requirements of the PSR complied with?</p>	<p>If agricultural water is treated in accordance with § 112.45:</p> <ul style="list-style-type: none"> Any method used to treat agricultural water (such as with physical treatment, including using a pesticide device as defined by the U.S. Environmental Protection Agency (EPA); EPA-registered antimicrobial pesticide product; or other suitable method) shall be effective to make the water safe and of adequate sanitary quality for its intended use and/or meet the relevant microbial quality criteria in § 112.44, as applicable. Delivery of any treatment of agricultural water shall be in a manner which ensures that the treated water is consistently safe and of adequate sanitary quality for its intended use and/or consistently meets the relevant microbial quality criteria in § 112.44, as applicable. Monitoring of any treatment of agricultural water shall occur at a frequency sufficient to ensure that the treated water is consistently safe and of adequate sanitary quality for its intended use and/or consistently meets the relevant microbial quality criteria in § 112.44, as applicable. <p>Records shall be kept.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.3	<p>What specific microbial quality thresholds shall be established for agricultural water?</p> <p>§ 112.44 (b)</p>	<p>Does agricultural water used on preharvest activities meet the relevant microbial quality criteria as established in the PSR?</p>	<p>If agricultural water is used during growing activities for covered produce using a direct water application method, the following criteria shall apply (unless alternative criteria are established and used in accordance with § 112.49):</p> <ul style="list-style-type: none"> • A geometric mean (GM) of agricultural water samples of 126 or less colony forming units (CFU) of generic <i>E. coli</i> per 100ml of water (GM is a measure of the central tendency of water quality distribution); and • A statistical threshold value (STV) of agricultural water samples of 410 or less CFU of generic <i>E.coli</i> per 100ml of water. <p>The number of samples used to calculate GM and STV varies depending on the type of source. See § 112.46 (b)(1). As an example, the producer may use the UC Davis online calculator for GM and STV.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.4	<p>What measures must be taken if agricultural water does not meet the requirements of § 112.41 or § 112.44 (b)?</p> <p>§ 112.45</p>	<p>If it has been determined or there are reasons to believe that the agricultural water is not safe and/or does not meet the microbial quality criterion required, have adequate corrective measures been taken?</p>	<p>If the agricultural water does not meet the microbial quality criterion for the specified purposes as required under § 112.44 (b), the producer shall immediately discontinue the use(s) of the relevant water. The producer shall then either:</p> <ul style="list-style-type: none"> • Apply a time interval (in days) between the last use of water and harvest, using a calculated microbial die-off rate as specified in Annex 1 “Agricultural water”; or • Reinspect the entire affected agricultural water system to the extent that it is under the producer’s control, identify any conditions that are reasonably likely to introduce known or reasonably foreseeable hazards into or onto covered produce or food contact surfaces, make necessary changes, and take adequate measures to determine whether changes were effective and, as applicable, adequately ensure that agricultural water meets the microbial quality criterion in § 112.44 (b); or • Treat the water in accordance with the requirements of § 112.43. <p>Records shall be kept.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.5	<p>For the initial water quality profile, how often must agricultural water be tested?</p> <p>§ 112.46 A, B, and (ii)</p>	<p>Has a microbial water quality profile been developed for each source of water used for preharvest activities?</p>	<p>The producer shall conduct an initial survey to develop a microbial water quality profile of the agricultural water source.</p> <ul style="list-style-type: none"> For an untreated surface water source, the initial survey shall be conducted by taking a minimum total of 20 samples of agricultural water (or an alternative testing frequency that is established and used, in accordance with § 112.49) over a minimum period of two years, but not greater than four years. For an untreated groundwater source, the initial survey shall be conducted by taking a minimum total of 4 samples of agricultural water during the growing season or over a period of one year. <p>The samples of agricultural water shall be representative of water use and shall be collected prior to, but as close in time as practicable to, harvest.</p> <p>See Annex 1, “Agricultural water” for definitions of untreated surface water and groundwater.</p> <p>The producer may use an alternative testing frequency that can be established and used, in accordance with § 112.49 (c) and (d). In that case, the producer shall have available scientific evidence of the effectiveness of that testing method.</p> <p>Records shall be kept.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.6	<p>After the initial profile is developed, how often must agricultural water be tested?</p> <p>§ 112.46 (i), A, B, and (iv)</p>	<p>After the initial year, has the producer conducted an annual survey to update the microbial water quality profile of agricultural water?</p>	<p>After the initial survey described above, the producer shall test the water annually to update the existing microbial water quality profile to confirm that the water continues to be appropriate.</p> <ul style="list-style-type: none"> • For an untreated surface water source, the analysis shall include a minimum of 5 samples per year to make up a rolling data set of at least 20 samples. • For an untreated groundwater source, the analysis shall include a minimum of 1 sample per year to make up a rolling data set of at least 4 samples. <p>The producer shall modify water use, as appropriate, based on the revised GM and STV values in an updated microbial water quality profile.</p> <p>If the producer has determined or has reason to believe that the microbial water quality profile no longer represents the quality of water (for example, if there are significant changes in adjacent land use that are reasonably likely to adversely affect the quality of the water source), the producer shall develop a new microbial water quality profile reflective of the time period at which the microbial water quality profile may have changed.</p> <p>Records shall be kept.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.7	<p>For microbial water quality testing, what testing methods must be used?</p> <p>§ 112.47 (a), (b)(1), (2)</p>	<p>Are agricultural water samples tested following the requirements of the PSR?</p>	<p>Agricultural water samples shall be aseptically collected. The producer shall test the quality of water using a scientifically valid method that, in accuracy, precision, and sensitivity, is at least equivalent to Method 1603; or another scientifically valid method for any other indicator of fecal contamination the producer may test for pursuant to § 112.49 (a). Equivalent testing methodologies for agricultural water are listed in Annex 1 “Agricultural water” or on the FDA’s website.</p> <p>Evidence of testing methods are generally available on the laboratory accreditation certificate or directly on the lab report.</p> <p>Records shall be kept.</p>	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 7.8	<p>Under subpart E, “Agricultural water”, what requirements apply regarding records?</p> <p>§ 112.50 (1), (3), (4), (5), (6), (8), (9)</p>	<p>Are records related to agricultural water kept as required by the PSR?</p>	<p>Required records for agricultural water under the PSR are:</p> <ul style="list-style-type: none"> • The findings of the inspection of the agricultural water system(s) • Scientific data or information to support the adequacy of a method used for water treatment • If applicable, results of the water treatment monitoring • If applicable, scientific data or information to support the microbial die-off or removal rate(s) used to determine the time interval (in days) between harvest and end of storage, including other activities such as commercial washing, as applicable, used to achieve the calculated log reduction of generic <i>E. coli</i> • If applicable, documentation of actions taken in accordance with any time interval or (calculated) log reduction applied, showing the specific time interval or log reduction applied, how the time interval or log reduction was determined, and the dates of corresponding activities such as the dates of last irrigation and harvest, the dates of harvest and end of storage, and/or the dates of activities such as commercial washing • If applicable, scientific data or information to support any alternative microbial quality criterion, alternative number of water samples • If applicable, any analytical methods used in lieu of the testing method 	Recom.

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
HARVEST AND POSTHARVEST ACTIVITIES				
PSR 8	SUBPART E – AGRICULTURAL WATER (HARVEST, POSTHARVEST WATER)			
<p><i>Control points below may be applicable during handling at the point of harvest (in-field) and/or produce handling (in-field or facility) and/or during packing/storage/cooling, where postharvest handling of covered produce is within the scope of the PSR. All control points shall be verified in all cases when and where applicable, with the exceptions: (a) Where postharvest activities are carried out by a facility covered in the PSR and already audited to the GLOBALG.A.P. Product Handling Assurance standard or other GFSI certification program, the auditor shall consider the points below as not applicable in this document; or (b) where the postharvest handling activities are conducted by an external owner and not under the control, management, or ownership of the producer.</i></p>				
PSR 8.1	<p>What measures must be taken for water that is used during harvest, packing, and holding activities for covered produce?</p> <p>§ 112.48 (b)</p>	<p>Is water used during harvest, packing, and holding activities visually monitored for buildup of organic matter?</p>	<p>The quality of recirculated water shall be visually monitored for buildup of organic material (such as soil and plant debris) if used during harvest, packing, and holding activities for produce covered by the PSR. For example, water used for washing produce in dump tanks, flumes, or wash tanks, and water used for cooling produce in hydrocoolers shall require monitoring.</p> <p>The specific method and criteria for monitoring to maintain water quality shall be company-specific and producers shall consider establishing protocols specific to harvesting, packing, or holding activities on the farm.</p> <p>N/A if water is not used during harvest, postharvest, or holding activities.</p> <p>N/A if postharvest handling activities are not carried out on-farm.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 8.2	<p>What measures must be taken for water that is used during harvest, packing, and holding activities for covered produce?</p> <p>§ 112.48 (c)</p>	<p>Is the temperature of water used in postharvest activities maintained and monitored?</p>	<p>The producer shall monitor the temperature of water used in postharvest activities and shall maintain such water at a temperature that is appropriate for the commodity and company (considering the time and depth of submersion) and adequate to minimize the potential for infiltration of microorganisms of public health significance into covered produce.</p> <p>N/A if water is not used during harvest, packing, or holding activities.</p> <p>N/A if postharvest handling activities are not carried out on-farm.</p>	Major Must
PSR 9	SUBPART L – EQUIPMENT, TOOLS, BUILDINGS, AND SANITATION			
	<i>For the term “building”, the PSR includes provisions for fully or partially enclosed buildings that are used for covered activities, as well as storage sheds, buildings, or other structures used to store food contact surfaces (such as harvest containers and food-packing materials).</i>			
PSR 9.1	<p>What requirements apply regarding equipment and tools for harvest and postharvest handling activities?</p> <p>§ 112.123 (a) and (c)</p>	<p>Do equipment and tools used avoid produce contamination?</p>	<p>The producer shall use equipment and tools that are of adequate design, construction, and workmanship to enable suitable cleaning and proper maintenance.</p> <p>Seams on food contact surfaces of equipment and tools shall be either smoothly bonded or maintained to minimize accumulation of dirt, filth, food particles, and organic material and shall thus minimize the opportunity for harborage or growth of microorganisms.</p> <p>N/A if postharvest handling activities are not carried out on-farm.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 9.2	<p>What requirements apply to instruments and controls used to measure, regulate, or record?</p> <p>§ 112.124 (a), (b), and (c)</p>	<p>Are instruments or controls used to measure, regulate, or record the conditions which control or prevent the growth of microorganisms of public health significance appropriate for their purpose?</p>	<p>Instruments or controls used to measure, regulate, or record temperatures, hydrogen-ion concentration (pH), sanitizer efficacy, or other conditions in order to control or prevent the growth of microorganisms of public health significance shall be as accurate and precise as necessary, and adequate in number for their designated uses.</p>	Major Must
PSR 9.3	<p>What requirements apply to buildings where postharvest handling occurs?</p> <p>§ 112.126 (a), (1), (i), and (ii)</p>	<p>Where postharvest handling occurs on-farm, are the buildings used for produce handling adequate to prevent produce contamination?</p>	<p>Buildings shall be suitable in size, construction, and design to facilitate maintenance and sanitary operations for covered activities to reduce the potential for contamination of covered produce or food contact surfaces with known or reasonably foreseeable hazards. Buildings shall provide sufficient space for placement of equipment and storage of materials. Buildings shall also permit proper precautions to be taken to reduce the potential for contamination of covered produce, food contact surfaces, and packing materials with known or reasonably foreseeable hazards. The potential for contamination shall be reduced by effective design, including the separation of operations in which contamination is likely to occur by one or more of the following means: Location, time, partition, enclosed systems, or other effective means. N/A if postharvest handling activities are carried out in-field or not on-farm.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 9.4	<p>What requirements apply to buildings where postharvest handling occurs?</p> <p>§ 112.126 (2), and 2(b)</p>	<p>Where postharvest handling occurs in a building on-farm, is drainage adequate?</p>	<p>Adequate drainage shall be provided in all areas where normal operations release or discharge water or other liquid waste on the ground or floor of the building. The producer shall implement measures to prevent contamination of covered produce and food contact surfaces in buildings, as appropriate, considering the potential for such contamination through drip or condensate.</p> <p>N/A if postharvest handling activities are carried out in-field or not on-farm.</p>	Major Must
PSR 9.5	<p>What requirements apply regarding domesticated animals in and around a fully-enclosed building?</p> <p>§ 112.127 (a), (1), (2), and (b)</p>	<p>Where postharvest handling occurs on-farm, are PSR requirements regarding domesticated animals in and around fully enclosed buildings complied with?</p>	<p>Producers shall take reasonable precautions to prevent known or reasonably foreseeable hazards from domestic animals, including contamination of covered produce, food contact surfaces, and food-packing materials in fully enclosed buildings. Prevention methods shall include:</p> <ul style="list-style-type: none"> • Excluding domesticated animals from fully-enclosed buildings where covered produce, food contact surfaces, or food-packing material is exposed; or • Where product handling activities are conducted on covered produce in a fully-enclosed building, separating domesticated animals by location, time, or partition <p>Guard or guide dogs are allowed in some areas of a fully enclosed building where the presence of the dogs is unlikely to result in contamination of produce, food contact surfaces, or food-packing materials, based on the hygiene risk assessment and procedures.</p> <p>N/A if postharvest handling activities occur in-field, the building is not fully enclosed, or postharvest handling activities are not carried out on-farm.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 9.6	<p>What controls must be in place for disposal of sewage?</p> <p>§ 112.131 (b), (c), and (d)</p>	<p>Are sewage and septic systems maintained in a manner that prevents contamination of produce or product contact surfaces?</p>	<p>Producers shall maintain sewage and septic systems as well as manage and dispose of leakages or spills of human waste in a manner that prevents known or foreseeable hazards, including contamination of covered produce, food contact surfaces, areas used for a covered activity, agricultural water sources, and agricultural water distribution systems.</p> <p>After a significant event (such as flooding or an earthquake) that could negatively impact a sewage or septic system, the producer shall take appropriate steps to ensure that sewage and septic systems continue to operate in a manner that does not contaminate covered produce, food contact surfaces, areas used for a covered activity, agricultural water sources, or agricultural water distribution systems.</p> <p>Additionally: The requirement under the PSR does not explicitly require a written policy or record. Observation and implicit policy may be verified through worker interviews.</p> <p>N/A if postharvest handling activities are not carried out on-farm.</p>	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 9.7	What requirements apply to plumbing? § 112.133 (a), (b), (c), and (d)	Where postharvest handling occurs on-farm, is the plumbing system adequate?	The plumbing shall be of an adequate size and design and be adequately installed and maintained to: <ul style="list-style-type: none"> • Distribute water under pressure as needed, in sufficient quantities, in all areas where used for covered activities, for sanitary operations, or for handwashing and toilet facilities • Properly convey sewage and liquid disposable waste • Avoid becoming a source of contamination for covered produce, food contact surfaces, areas used for a covered activity, or agricultural water sources • Not allow backflow from, or cross-connection between, piping systems that discharge wastewater or sewage and piping systems that carry water used for a covered activity, for sanitary operations, or for use in handwashing facilities N/A if postharvest handling activities are not carried out on-farm.	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR 9.8	What actions must be taken to control animal excreta and litter from domesticated animals that are under producer's control? § 112.134 (a), (1), and (2)	Is there an effective system in place to control animal excreta and litter?	Producers are permitted to have domesticated animals on farms of covered produce, provided that the producer takes measures to prevent contamination of covered produce, food contact surfaces, areas used for a covered activity, agricultural water sources, or agricultural water distribution systems with animal waste. The producer shall: <ul style="list-style-type: none"> • Adequately control domesticated animals' excreta and litter • Maintain a system for control of animal excreta and litter N/A if producer does not have domesticated animals on the farm. N/A if postharvest handling activities are not carried out on-farm.	Major Must
FSMA PSR ADD-ON QUALITY MANAGEMENT SYSTEM (QMS) FOR MULTISITE PRODUCERS WITH QMS AND PRODUCER GROUPS				
<i>The quality management system (QMS) must ensure that all producer group members and production sites under the certification scope comply with the certification requirements at all times. By auditing the QMS and a sample of producer group members/production sites, the CB (the auditor) must assess whether the applicant's internal controls are appropriate.</i>				

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR QMS 1	Does the QMS of the producer group/multisite producer demonstrate that the FSMA PSR add-on is correctly implemented for all producer group members/production sites registered for the FSMA PSR add-on?	Are all producer group members/production sites that are registered/certified for the FSMA PSR add-on internally inspected, approved, and in conformance with the FSMA PSR add-on?	<p>The QMS of the producer group/multisite producer shall ensure that all registered/certified FSMA PSR add-on producers have undergone an internal inspection, have been internally approved, and maintain conformance according to the FSMA PSR add-on general rules specification, in addition to registration and certification under, and maintenance of IFA FV.</p> <ul style="list-style-type: none"> • A register shall be maintained of all producer group members/production sites implementing the FSMA PSR add-on. • The register shall contain the internal inspections and approval dates. • Internal inspections of each participating producer group member/production site shall be conducted by the internal inspector/auditor using the FSMA PSR add-on checklist. • Non-compliances and non-conformances shall be identified and corrective actions taken to enable conformance of all participating producer group members/production sites. • Records of internal inspections shall include objective evidence observed and results. 	Major Must

No.	FSMA PSR requirement and clause no.	Control points	Compliance criteria	Level
PSR QMS 2	Does the QMS of the producer group/multisite producer show evidence that key staff, internal inspectors, and internal auditors are qualified?	Do the QMS key staff, internal inspectors, and internal auditors meet minimum qualification requirements and maintain independence, confidentiality, and impartiality?	<p>The certificate holder shall ensure competency requirements are defined, documented, and demonstrated for key QMS staff and internal auditors and inspectors, in addition to meeting GLOBALG.A.P. general regulations requirements for producer groups and multisite producers with QMS.</p> <ul style="list-style-type: none"> • A system shall be in place to regularly inform and train key staff on PSR-related issues. • The QMS internal inspectors and auditors shall be qualified according to the FSMA PSR add-on general rules specifications, including successful completion of food safety training at least equivalent to a standardized curriculum recognized as adequate by the FDA. • Inspectors shall not evaluate their own operations; auditors shall not approve their own work. • Inspectors and auditors shall adhere to confidentiality requirements of the producer group/multisite company. • Inspectors and auditors shall maintain integrity and impartiality. 	Major Must

ANNEX 1 AGRICULTURAL WATER

Introduction to agricultural water

The IFA standard requires that producers develop a risk-based assessment to cover production-specific factors such as crop, water source, contact of water with crop, etc. A program for testing microbiological water quality is normally required or advisable based on this assessment. The GLOBALG.A.P. Secretariat accepts *E. coli* as an indicator of fecal contamination. Actions shall be taken and proven to be effective if test results indicate microbial water quality does not meet required thresholds.

During the review of the FSMA PSR add-on, the FDA reached out to GFSI (Global Food Safety Initiative as part of the Consumer Goods Forum) and requested assistance with the implementation of the agricultural microbial water quality profile clauses in the PSR regulations. Please note that this does not alter existing GLOBALG.A.P. requirements and/or criteria targeted to meet requirements in other countries' legislation. As such, the FSMA PSR add-on includes agricultural water requirements as recommendations only, until the FDA enforces the requirements or the CPCCs are updated to reflect the finalized revised requirements. All testing, sampling, or records on microbial water quality as related to PSR requirements are not scored. However, GFSI and the GLOBALG.A.P. Secretariat continue to engage with the FDA and industry associations regarding PSR requirements such as agricultural water in order to help producers meet these new legal requirements.

Definitions

The water requirements established by the FDA apply only to agricultural water, which is defined as the water that comes into contact with the produce and food contact surfaces.

- Surface water: Any water open to the atmosphere such as rivers, lakes, reservoirs (natural or man-made), streams, etc. If groundwater (such as wells, springs, etc.) is collected or maintained open to the atmosphere, it shall be considered surface water.
- Groundwater: Supply of water from beneath the earth's surface, such as aquifers which supply wells, springs, etc. This water shall be extracted in a properly constructed and closed system if it is used directly from the source. If it is stored on the farm, it should be maintained or transported in closed tanks/systems. If stored in pools, tanks, or reservoirs that are open, it will be considered surface water.

Producers shall build a microbial water quality profile of the agricultural water. The microbial count shall be lower than 126 CFU of *E. coli* per 100ml of water in any group of samples.

§ 112.46 (b)(1)(ii) requires that the sampling of water shall be representative of the use and that samples shall be taken before the harvest, but at the nearest practicable time to harvest possible.

The FDA has determined that the following methods are “scientifically valid” and “at least equivalent to the method of analysis in § 112.151 (a) in accuracy, precision, and sensitivity [1]”:

- Method 1103.1 – “*Escherichia coli* (*E. coli*) in water by membrane filtration using membrane-thermo-tolerant *Escherichia coli* agar (mTEC)” (March 2010). U.S. Environmental Protection Agency. EPA-821-R-10-002.
- Method 1604– “Total coliforms and *Escherichia coli* in water by membrane filtration using a simultaneous detection technique (MI medium)” (September 2002). U.S. Environmental Protection Agency. EPA-821-R-02-024.
- 9213 D – “Natural bathing beaches” (2007). In: “Standard methods for the examination of water and wastewater,” 22nd edition (Rice E.W., et al., eds.), 9-46 – 9-48. Washington, DC: American Public Health Association. (2012).
- 9222 B – “Standard total coliform membrane filter procedure” (1997), followed by 9222 G – “MF partition procedures” (1997) using NA-MUG media. In: “Standard methods for the examination of water and wastewater,” 21st edition (Eaton A.D., et al., eds.), 9-60 – 9-65 and 9-70 – 9-71, respectively. Washington, DC: American Public Health Association. (2005).
- D 5392-93 – “Standard test method for isolation and enumeration of *Escherichia coli* in water by the two-step membrane filter procedure.” In: “Annual book of ASTM standards,” volume 11.02. ASTM International. (1996, 1999, 2000).
- (6) Hach method 10029 for coliforms – Total and *E. coli*, using m-ColiBlue24® Broth PourRite ampules.
- IDEXX Colilert® test kit, but only if using IDEXX Quanti-Tray/2000 for quantification.
- IDEXX Colilert-18® test kit, but only if using IDEXX Quanti-Tray/2000 for quantification.

Additional requirements for § 112.45, if agricultural water does not meet the microbial quality criteria (or any alternative microbial quality criteria, if applicable) required under § 112.44 (b), are given below. If the producer applies a time interval and/or a log reduction, the following apply.

1) A time interval (in days) and/or a (calculated) log reduction by:

- Applying a time interval between last irrigation and harvest using either: (A) A microbial die-off rate of 0.5 log per day to achieve a (calculated) log reduction of the geometric mean (GM) and statistical threshold value (STV) to meet the microbial quality criteria in § 112.44 (b) (or any alternative microbial criteria, if applicable), but no greater than a maximum time interval of 4 consecutive days; or (B) an alternative microbial die-off rate and any accompanying maximum time interval, in accordance with § 112.49; and/or
- Applying a time interval between harvest and end of storage using an appropriate microbial die-off rate between harvest and end of storage, and/or applying a (calculated) log reduction using appropriate microbial removal rates during activities such as commercial washing, to meet the microbial quality criteria in § 112.44 (b) (or any alternative microbial criteria, if applicable), and any accompanying maximum time interval or log reduction, provided that adequate supporting scientific data and information is available.

ANNEX 2 SOIL AMENDMENTS

Treatment process for biological soil amendments

The following treatment processes are acceptable for a biological soil amendment of animal origin that is applied in the growing of covered produce, provided that the resulting biological soil amendments are applied in accordance with the applicable requirements of § 112.56:

- A scientifically valid controlled physical process (e.g., thermal), chemical process (e.g., high alkaline pH), biological process (e.g., composting), or a combination of scientifically valid controlled physical, chemical, and/or biological processes that has been validated to satisfy the microbial standard in § 112.55 (a) for *L. monocytogenes*, *Salmonella* species, and *E. coli* O157:H7; or
- A scientifically valid controlled physical, chemical, or biological process, or a combination of scientifically valid controlled physical, chemical, and/or biological processes, that has been validated to satisfy the microbial standard in § 112.55 (b) for *Salmonella* species and fecal coliforms. Examples of scientifically valid controlled biological (e.g., composting) processes that meet the microbial standard in § 112.55 (b) are below.

Stabilized compost

In the PSR, microbial standards that set limits on detectable amounts of bacteria (including *L. monocytogenes*, *Salmonella* spp., fecal coliforms, and *E. coli* O157:H7) have been established for processes used to treat biological soil amendments, including manure. The rule includes two examples of scientifically valid composting methods that meet those standards. Stabilized compost prepared using either of these methods shall be applied in a manner that minimizes the potential for contact with produce during and after application.

Examples of composting processes mentioned in the PSR (§ 112.54)	
Static composting:	Must maintain aerobic (i.e., oxygenated) conditions at a minimum of 131°F (55°C) for 3 consecutive days and is followed by adequate curing.
Turned composting:	Must maintain aerobic conditions at a minimum of 131°F (55°C) for 15 days (which do not have to be consecutive), with a minimum of 5 turnings, and is followed by adequate curing.

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Examples of composting processes mentioned in the PSR (§ 112.54)	
Microbial standard (§ 112.55 (b)):	<p><i>L. monocytogenes</i> – not detected using a method that can detect 1 colony forming unit (CFU)/5 grams (or milliliter, if liquid is being sampled) analytical portion</p> <p><i>Salmonella</i> species – not detected using a method that can detect 3 most probable numbers (MPN)/4 grams (or milliliter, if liquid is being sampled) of total solids</p> <p><i>E. coli</i> O157:H7 – not detected using a method that can detect 0.3 MPN/1 gram (or milliliter, if liquid is being sampled) analytical portion</p> <p>Or for dry weight basis:</p> <p><i>Salmonella</i> species – not detected using a method that can detect 3 MPN <i>Salmonella</i> species/4 grams of total solids</p> <p>Fecal coliforms – less than 1,000 MPN/gram of total solids</p>

VERSION/EDITION UPDATE REGISTER

New document	Replaced document	Date of publication	Description of modifications
180608_GG_FSMA_PSR_CPCC_V1_0_en	180417_DRAFT_GG_FSMA_CPC_C_V1_0_IF_en	8 June 2018	<p>Added words to contents: standard certificate</p> <p>PSR 1.1 Changed harvest to distribution, added records requirement, added No N/A</p> <p>PSR 1.2 Added records requirement, added No N/A</p> <p>PSR 2.2 Added N/A option</p> <p>PSR 4.1 Added No N/A</p> <p>PSR 4.2 Added No N/A</p> <p>PSR 5.1 Added No N/A</p> <p>PSR 5.2 Added No N/A</p> <p>PSR 5.3 Added No N/A</p> <p>PSR 7.1 Added N/A</p> <p>PSR 7.2 Added N/A</p> <p>PSR 8.1 Added N/A</p> <p>PSR 8.2 Added the word harvest to N/A</p> <p>PSR 8.3 Added the word harvest to N/A</p> <p>PSR 8.4 Added the word harvest to N/A</p> <p>PSR 8.5 Added N/A</p>
190215_GG_FSMA_PSR_CPCC_V1_1_en	180608_GG_FSMA_PSR_CPCC_V1_0_en	15 February 2019	<p>Changed version number, validity date and obligatory date to match GR V1.1</p>
191111_GG_FSMA_PSR_CPCC_V1_2_en	190215_GG_FSMA_PSR_CPCC_V1_1_en	11 November 2019	<p>Contents – Added Subpart I</p> <p>– Changed wording</p> <p>Introduction – Minor wording edits</p> <p>PSR 3.1 – New control point added</p> <p>PSR 3.1-8.7 (4.1-9.7) – Updated control point numbers</p>

New document	Replaced document	Date of publication	Description of modifications
220907_GG_FSMA_PSR_add-on_CPCCs_v1_3_en	191111_GG_FSMA_PSR_CPCC_V1_2_en	07 September 2022	PSR 1.3 – new, specificity for hygiene practices PSR 2.1 – added PSR wording § 112.52 (a) PSR 4.5 – new, added PSR wording § 112.116 PSR 5.1 – added visitors requirement PSR 5.2 – clarification of water quality requirement § 112.130 (2), added visitors requirement PSR 6.1 – inserted PSR wording for records requirement PSR 9.2 – new, added PSR wording § 112.124 (a), (b), and (c), for instruments PSR 9.3–9.8 – adjusted numbering PSR QMS 1 – new; correct implementation of QMS for multisite producers with QMS and producer groups PSR QMS 2 – new; QMS internal inspector and auditor expectations

If you want to receive more information on the modifications in this document, contact the GLOBALG.A.P. Translations and Document Support team at translation_support@globalgap.org.

When the changes do not introduce new requirements to the standard, the version will remain “1.0” and an edition update shall be indicated with “1.0-x”.

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