Center for Crop Diversification
Martin-Gatton College of Agriculture, Food and Environment

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Understanding GFSI Additions to Harmonized GAP Audit Standards

Paul Priyesh[1], Bryan Brady[2], Courtney Bartlett[3], and Ashton Wright[4]

The Produce GAPs Harmonized Audit Standard serves as a vital framework for ensuring the safety and quality of fresh produce. In 2009, United Fresh, now the International Fresh Produce Association (IFPA), began the task of "harmonizing" GAP standards. The process took 13 different GAP standards from across the industry and unified them into "one audit, by any credible third party, acceptable to all buyers (2)." Since its inception in 2011, the Harmonized Audit Standard has become the go-to option for small to medium size growers due to its flexibility and the availability of organizations that offer the audit at cost-effective pricing. The Harmonized Standard has also been aligned with the Food Safety Modernization Act's (FSMA) Produce Safety Rule (PSR), providing additional assurance to growers that they are meeting federal regulations for the growing, harvesting, packing, and holding of fresh produce.

GFSI additions to the Harmonized Standard

The Global Food Safety Initiative (GFSI) is also an effort to harmonize additional higher-level requirements to third-party produce safety audits, but at an international level. It is an advanced auditing system that builds upon the foundational Harmonized Audit Standard requirements and incorporates additional measures recognized by international retailers and manufacturers. Two licensees that offer the Harmonized Audit Standard also offer either a fully benchmarked GFSI recognized addition or a GFSI technically equivalent addition.

GFSI Benchmark – Offered by GLOBALG.A.P. North America – includes the equivalent GFSI standards addition and GFSI regularly assesses the program's organizational management and governance.

GFSI Technical Equivalence – Offered by USDA Agricultural Marketing Service (AMS) – acknowledges the equivalence of standards but does not include GFSI organizational assessments.

Integration of GFSI into Produce GAPs Harmonized Audit Standard: Adding GFSI technical equivalency to the Harmonized Audit Standard adds an extra layer of validation to the framework. This integration addresses concerns specific to global markets and the complexities of international trade. Here's what this entails:

1. Risk-Based Approach: GFSI emphasizes a risk-based approach to food safety management. This aligns with the principles of the Harmonized Audit Standard but introduces a more robust risk assessment and management process. Producers need to be able to spot risks, gauge their seriousness and likelihood, and take the right steps to reduce them.

2. Continual Improvement: GFSI encourages organizations to adopt a culture of continuous improvement. This involves regular review and enhancement of food safety practices, ensuring that processes effectively address emerging risks and challenges.

[1]Paul Priyesh is the Food Safety Specialist in the Animal & Food Science Department at the University of Kentucky
[2]Bryan Brady is as Senior Extension Associate with the Cultivate Kentucky Partnership at the University of Kentucky
[3]Courtney Bartlett is an Extension Associate with the Cultivate Kentucky Partnership at the University of Kentucky
[4]Ashton Wright is the Executive Director of the Food Connection at the University of Kentucky

3. Documentation and Traceability: GFSI emphasizes the importance of meticulous record-keeping and traceability throughout the supply chain. This aligns with the need for accountability and transparency in international trade. Manufacturers and producers adhering to the Harmonized Audit Standard with GFSI benchmark or technical equivalence must maintain detailed records, making it easier to track products back to their origin in case of safety concerns.

4. Validation and Verification: GFSI introduces a structured approach to validating and verifying food safety controls, which ensures that implemented controls are adequate and consistently maintained. Regular audits and assessments are conducted to validate compliance with the established standards.

5. Supplier Management: GFSI mandates the evaluation and approval of suppliers based on their adherence to food safety standards. This aspect ensures that the entire supply chain operates at a high level of safety, reducing vulnerabilities that might arise from subpar practices among suppliers.

The following table provides a comprehensive comparison between the Produce GAPs Harmonized Audit Standard and GFSI additions, highlighting the specific enhancements brought by the integration of GFSI requirements:

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Management Responsibilities	• Must have a food safety policy • Designate individuals to specific food safety roles • There must be a corrective action policy for food safety violations	• Food safety plan must include measurable objectives • Food safety plan must include organizational structure for all individuals whose activities affect food safety
Food Safety Plan or Risk Assessment	• Must have a food safety plan which addresses physical, chemical, and biological hazards • This plan should include hazard prevention procedures, including monitoring, verification, and record keeping • The plan must be reviewed annually or when changes that affect the operation occur • Must have an approved supplier and approved services program	• Approved supplier program contains standard operating procedures (SOPs) for evaluation, approval, and continued monitoring of suppliers • Approved supplier and services program has SOP for approving suppliers and service providers

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Documentation and Record keeping	• Must keep documentation and records that show the food safety plan is being followed • This documentation must be readily available for inspection and retained for a minimum period of two years	Documentation and records must be securely stored and effectively controlled
Worker Education and Training	• Personnel must receive food safety training that is appropriate to their job responsibilities • Supervisory food safety personnel must receive food safety training that is appropriate to their job responsibilities • Any contracted personnel should be held to the same food safety standards as traditional employees	No additional requirements
Sampling and Testing	• Any lab analysis required in the food safety plan must be performed by a Good Laboratory Practice (GLP) lab, or a lab participating in a scientifically validated proficiency testing program • Samples for lab analysis shall be collected in accordance with an established sampling procedure and prevailing regulations and records kept • SOPs on testing procedures and corrective actions to be taken based on results should be documented	No additional requirements
Traceability	• Must have a documented traceability program that can trace product one step forward and one step back • A test of this traceability program must be conducted and documented annually	• All packaging must include product identification • Exported product must have appropriate labelling of the country product is being exported to • Product intended for CSA or farm stand must be recorded in traceability logs
Recall	• Must have a documented recall program including SOPs • The recall program should have a dedicated recall team • A “mock recall” should be performed annually	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Corrective Actions and Food Safety Incidents	• Must have documented corrective action SOPs • If any product is on hold for food safety related reasons it must be identified and segregated from other product and packaging	• Corrective actions SOPs must include complaint evaluation • Food safety incidents are recorded, and a risk assessment is performed to determine the severity and risk of the incident. • A food safety incident management SOP must be in place
Self-Audits	• An SOP for self-audits exists, and a self-audit is conducted annually • Any required corrective actions identified will be documented	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Health and Hygiene	• A policy for toilet use, handwashing, hygiene, and health exists • Employees and visitors are made aware of, and must follow these personal hygiene practices • Restroom facilities should be designed in a way to minimize risk to product • Restrooms must be directly accessible for servicing • Restrooms must meet federal OSHA standards and any additional local and state regulations in regard to number of toilets, and ease of access • Toilet paper must be disposed of in the toilet • If this is not possible, then toilet paper disposal containers must be used and properly labelled • Restrooms, toilets, and wash stations must be maintained in clean and sanitary condition • If field sanitation units are used a response plan is in place in the case of leaks and spills • Employees and visitors must wash their hands any time they may become a source of contamination • Handwashing signage is posted in all of the appropriate languages of employees • A policy must exist that requires clean clothing, including footwear, will not become a source of contamination of product throughout the day • If gloves are used, a glove policy must exist • If protective clothing is used and may come into contact with product then it should be protected against contamination • A jewelry policy must exist and comply with any applicable regulations • If hair coverings are used a hair covering policy must exist and comply with any applicable regulations • Personnel belongs must be stored in designated areas • "Smoking, chewing, eating, drinking (other than water), chewing gum, spitting, urinating, defecating, and using tobacco, shall be prohibited except in clearly designated areas." • A policy must exist that break areas should not become a source of contamination • Potable drinking water should be available to all employees • A policy must exist that excludes employees and visitors with illness from contact with product or entering areas where direct or indirect contamination could occur	
Health and Hygiene (continued)	• Any employee with exposed cuts, sores, or lesions must not handle product • A blood and bodily fluid policy and SOP should exist • First aid kits should be readily accessible to all employees	

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Agricultural and Cleaning Chemicals	• Use of agricultural chemicals, including pesticides, should comply with label directions and prevailing regulations • Maximum Residue Limits (MRL) for country of origin and intended destination should be considered • Agricultural chemicals should only be applied by trained, licensed, or certified applicators as determined by prevailing regulations • Water used with agricultural chemicals shall not be a potential source of contamination • Use of water treatment agricultural chemicals should comply with label directions and prevailing regulation • Agricultural chemical disposal should not be a source of contamination • All cleaning agents used on food contact surfaces should be approved for said use • Compressed air that contacts food or food contact surfaces should not be a source of contamination	No additional requirements
Waste Management	• A waste management plan must exist and be implemented • Waste must not come into contact with produce	No additional requirements
Food Defense	• A security assessment of the potential for unauthorized access to growing and packing areas should be conducted • An emergency response plan should be in place	• The security assessment is reviewed and updated annually • There should be a written food defense plan that addresses risks identified in the security assessment
Food Fraud	No food fraud requirements	• A food fraud risk assessment must be conducted annually and be documented • There should be a written food fraud plan that addresses risks identified in the food fraud assessment

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Field History and Assessment	• Annual risk assessment of land use history including equipment and structures • Field storage and indoor growing buildings shall be constructed and maintained in a manner that prevents contamination of produce • Sewage or septic systems are maintained so as to not be a source of contamination	• Risk assessment of each production area prior to harvest, including cross-contamination potential between production sites • Identify and develop control measures for all major hazards identifies in the risk assessment
Water System Description, Risk Assessment, and Management	• A water system description shall be available for review • Water sources shall be in compliance with prevailing regulation • Water systems shall not be cross-connected with human or animal waste systems • A water system risk assessment shall be conducted initially and annually thereafter • There should be a water system management plan to mitigate risks associated with the water system • Water testing shall be part of the water management plan as directed by the water system risk assessment and prevailing regulations for the crops grown • Testing program should be consistent with the water system plan • If water source is treated to meet microbiological criteria, the treatment is approved, effective, and monitored • If microbial die-off is used to achieve microbial criteria, operation has documentation supporting its use • If alternative approach to regulatory microbiological testing is used, operation has scientific data to support the alternative as providing the same level of public health protection	No additional requirements
Animal Control	• Operation should conduct an animal activity/wildlife risk assessment • Operation routinely monitors for animal activity in and around the growing area during the growing season • Must take measures, identified in the risk assessment, to prevent or minimize the potential for contamination from wildlife and/or domestic animals	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Soil Amendments and Alternative Growing Media/Substrate	• There should be a risk assessment performed if the operation uses, prepares, and/or stores animal-based soil amendments or biosolids • If raw/untreated manure is used, it should be used in a manner so as not to serve as a source of contamination and be used/stored as required by prevailing regulations • If an alternative growing media not of animal-origin is used it is appropriate for its intended use and stored and handled in a manner to prevent contamination	No additional requirements
Vehicles, Equipment, Tools, and Utensils	• Vehicles, equipment, tools, utensils, and/or any other material that may contact produce is identified • These items that come into contact with produce are in good repair, fit for their purpose, and do not serve as a source of contamination • Vehicles, equipment, tools, utensils should not pose a risk of physical or chemical contamination • Cleaning and sanitizing procedures should not serve as a source of contamination • Water tanks are cleaned at a sufficient frequency so as to not be a source of contamination	• All equipment and/or instruments that have an effect on food safety are identified, maintained, and calibrated • Calibration of said items is traceable to a recognizable standard • Operation's cleaning and sanitation program includes measures for monitoring to verify effectiveness
Preharvest Risk Assessment	• A preharvest risk assessment should be performed that evaluates the likelihood of physical, chemical, and/or biological contamination of the produce	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Water/Ice Used in Harvesting and Postharvest Operations	• Operation has SOPs for water used in contact with product and/or food contact surfaces • These water use SOPs address the microbial quality of the water or ice that directly contacts the product and/or food contact surfaces • Use of an antimicrobial process or chemical treatment in harvest or postharvest water is in accordance with manufacturer instructions and the operations water use SOPs • If water that contacts the product or food contact surfaces is reused, it is treated using a registered or approved antimicrobial process or chemical treatment • The water-use SOPs address the condition and maintenance of the water delivery system • If applicable to the commodity, water-use SOPs address control/ monitoring of wash water temperature	No additional requirements
Containers, Bins, and Packaging, Materials	• Operation has written policy regarding storage of harvesting containers, the inspection of food contact containers prior to use, and acceptable harvesting containers • Operation has written policy prohibiting use of harvest containers for non-harvest purposes	No additional requirements
Field Packaging and Handling	• There should be a written policy that visibly contaminated, damaged, or decayed produce is not harvested and/or is culled • Any product that contacts the ground should not be harvested unless it grows on, or is normally in contact with the ground • Harvest SOPs should include measures to inspect and remove physical hazards that are present • Cleaning materials like cloths or towels that can pose a risk of cross contamination are only used if risk mitigation procedures are in place • Packaging materials are appropriate for their intended use and are stored in a manner that minimizes contamination • Operation has a written policy regarding whether packaging materials can come into direct contact with the soil.	The operation has implemented a product release procedure where harvested or staged produce is inspected for visible contamination prior to leaving the field.
Post-Harvest Handling and Storage (In field prior to storage or packing)	• Harvested produce should be handled in a manner so as not to cause contamination • Materials that come into contact with produce should be in good repair	No additional requirements
Equipment Sanitation and Maintenance	• The operation should have a policy, SOP, and checklist to verify cleanliness and functionality of trailers • Loading and unloading procedures and equipment should minimize damage to and prevent contamination of produce	No additional requirements
Produce Sourcing	• Operation should have a policy and record keeping process that assures all fresh produce packed and stored in the operation are grown following the requirements in “Field Operations and Harvesting” Produce GAPs Harmonized Standard	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Facility	• The operation should perform an annual risk assessment of the storing and packing operations • Building shall be located, designed, constructed, and maintained in a manner that prevents contamination of produce during handling, storage, and cooling • Adequate lighting should be provided in all areas • Only essential glass and brittle plastic can be present in the building • If there are catwalks above product zones, they must be protected to prevent product and/or packaging contamination • If operation handles known allergens, then it must have a written Allergen Control Program	If microbiological hazards requiring control are identified in the risk assessment of the storing and packing operations, a microbial environmental monitoring program should be established
Pest and Animal Control	• Operation has a Pest Management Program appropriate to the operation • Animals are restricted from food handling areas • If pest control devices are used they are located so as to not serve as a source of contamination	No additional requirements
Equipment, Tools, and Utensils	• All food contact materials such as equipment, tools, and utensils are made of materials that are easily cleaned and maintained • Equipment must be installed in a way that provides access for cleaning • If equipment lubrication is used, it is food grade and does not serve as a source of contamination • "All instruments or tools (e.g., test strips, titration kits) used to measure temperature, pH, antimicrobial levels and/or other important devices used to monitor requirements in this section shall be adequately maintained and calibrated at a frequency sufficient to assure continuous accuracy." • If foreign materials detection devices are used, they are inspected and maintained	Calibration of packing, cooling, and storing equipment is based on a recognized standard

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Maintenance and Sanitation	• A preventative maintenance schedule and related SOPs should exist • There should be a master cleaning schedule with related SOPs • Temporary repairs on food contact surfaces must be made with food-grade material and permanent repairs must be made in a timely manner • Tools and equipment used to clean are in working order and stored away from product handling areas • Food contact surfaces should be cleaned, sanitized, and maintained according to the food safety plan • Equipment used to transport product should be maintained to prevent contamination of the products being transported • Waste is managed in a way so as not to serve as a source of contamination • Waste bins and dumpsters are lidded and located away from the operation's entrances and the area around them is reasonably clean • Sewage and/or septic systems are maintained so as to not serve as a source of contamination • Sewage disposal system is adequate and is maintained to prevent product contamination	• Routine housekeeping practices should be implemented • The cleaning and sanitation program should include measures for monitoring to verify its effectiveness
Post-Harvest Water/Ice	• Operation has a postharvest water system description • Regularly scheduled assessment of the water system should be performed • If water and/or ice contacts the product during the postharvest process the water use SOP should require that water and/or ice meets the microbial standard for drinking water • If produce is washed, then the food safety plan includes the washing process • Any water that is re-used/re-circulated that contacts the product or food contact surfaces is treated with a registered and/or approved antimicrobial process or chemical treatment • If antimicrobial treatment is used in postharvest wash water, it is done so in accordance with established SOP and manufacturer instructions • Water use SOPs address water temperature control if applicable to the crop type • When water is re-used there is a water change schedule • Any visibly damaged produce and/or debris should be removed from wash areas	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Containers, Bins, and Packaging	• Specifications for all packaging materials and labels that impact finished product safety shall be provided and comply with prevailing regulations • Operation has SOP for inspecting incoming packaging material • There is a written policy regarding storage and post-storage handling of product contact containers that requires them to be handled in a manner so as to not serve as a source of contamination • Materials (pallets, produce bins, totes, etc.) that come into contact with the product should be clean and in good repair • Operation has written policy regarding product-contact containers touching the ground or floor • There is a written policy on what an acceptable product contact container is, and that food contact containers and bins must be inspected prior to use • There is a written policy that prohibits these product-contact containers from being used for non-product purposes • Pallets should be kept clean and in good condition	No additional requirements

Section	Produce GAPs Harmonized Audit Standard	GFSI Additional Requirements
Storage	• Product storage areas and conditions should be appropriate for the product stored and should minimize the risk of produce contamination • Iced product is not stored above other product, or if its, protective measures are taken to prevent ice from melting on product below • Non-product storage areas (materials and equipment storage, etc.) shall be cleaned and maintained so as not to serve as a source of product contamination • Food packaging and packing materials should be stored in a way that prevents contamination • Enough space should exist between rows of stored materials so that they can be cleaned and inspected • Chemicals should be labelled properly and stored in a separate and secure area • Cooled produce is cooled to temperatures that are appropriate for the crop type • Temperature controlled areas should have suitable temperature monitoring devices • Cooling equipment is maintained and in good repair and does not serve as a source of product contamination	Operation has an SOP for stock management where materials are used on a first in first out (FIFO) basis
Transportation (Packinghouse to Customer)	• When refrigerated transport of product is required, there is a written policy to maintain a specified minimum temperature during transit • Transport vehicle should be precooled and have properly maintained and functional cooling equipment • Temperature of product should be taken and recorded prior to or upon loading if refrigerated transport is required • A written policy, SOP, and record should be kept regarding the cleanliness and functionality of transport vehicles and trailers • Loading and unloading SOPs, along with the equipment used, should minimize damage and prevent contamination of produce	No additional requirements

Benefits of GFSI Equivalency

The addition of an optional GFSI benchmark or technical equivalence to the Produce GAPs Harmonized Audit Standards brings forth a range of benefits for producers, consumers, and the global food industry:

1. Global Market Access: Harmonized GAP with GFSI technical equivalency opens international markets by demonstrating compliance with globally accepted food safety standards.

2. Enhanced Consumer Confidence: Consumers can trust that certified products meet stringent GFSI safety requirements.

3. Risk Reduction: Integrating HACCP, allergen management, and food defense measures proactively minimizes risks, adding further measures for the safety and quality of agricultural products.

4. Supply Chain Resilience: Supplier audits and crisis management protocols contribute to a more resilient supply chain, capable of withstanding disruptions and upholding consistent standards.

5. Industry Reputation: Participation in GFSI-equivalent audits elevates the reputation of agricultural producers, fostering industry-wide credibility and competitiveness.

Contact the Authors:

Paul Priyesh
paul.v@uky.edu
859-257-1546

Bryan Brady
bryan.brady@uky.edu
757-651-6692

Courtney Bartlett
courtney.bartlett@uky.edu

Ashton Wright
ashtonpotterwright@uky.edu
859-806-8800

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*Reviewed by **Annette Wszelaki**, PhD, University of Tennessee & **Ravi Jadeja**, PhD, Oklahoma State University.*

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For additional information, contact your local County Extension agent